

**Factors Influencing Information and Communication Technology Implementation  
in Government Secondary Schools in Kuwait**

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Signature: .....

## **Acknowledgments**

*In the Name of Allah, the Most Gracious, the Most Merciful*

All praise and thankfulness is due to Allah, I praise him and testify that there is no God but Allah, and that Mohammed is his slave and messenger (peace be upon him and all prophets and messengers).

I greatly thank Allah for giving me the inspiration, patience, time, and the ability to finish this work. With His will and mercy, I have been guided to all those great people who helped me to finish this work.

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## **Dedication**

*This work is dedicated to*

*Those who I affect their lives*

*And they affect mine*

*My Father's Soul*

*My Mother*

*My wife*

*My children*

*And all my family members and friends*

*For their patience, love, support and prayers*

*Throughout the course of this dissertation that*

*I hope will inspire them all..... God Bless them.*

## **Abstract**

Over the last few decades, Information Communication Technology (ICT) has become increasingly important in all organisations in modern societies including schools. Expectation about ICT and its role in developing and transforming the educational process through its inclusion in the daily school environment is increasing in many developed and developing countries. Many researchers and practitioners are involved in exploring and investigating ICT implementation in the learning and teaching process in secondary schools.

This research explores and investigates influential factors and barriers surrounding ICT implementation in government secondary schools in Kuwait from the perspectives of students, teachers and expert educators. The study is executed through two phases: an exploratory pilot study, (see Appendix 11), and this deep investigating study. The exploration and investigation process of this study focuses on six main areas: the ICT policies and strategies in the Ministry of Education, the readiness of school environment for ICT implementation, teachers' views regarding ICT, surrounding socio-political factors, other main barriers to ICT implementation and, finally, the main requirements for better ICT implementation.

The research has adopted a sociocultural approach whereby research problem has been explored and investigated through different individuals in different contexts that are related directly or indirectly to ICT implementation in government secondary schools. Data, as well, has been collected through a wide range of probing methods such as documents, self-managed questionnaires and interviews in order to answer the research question. The pilot study explores the research situation through 52 students and four teachers and in this main study 306 teachers were investigated through questionnaires and 15 teachers and expert educators were interviewed.

The findings indicate that Government of Kuwait and the Ministry of Education have a strong intention to implement ICT in secondary schools and have already executed many related practical steps. The study also reveals that most teachers have positive views towards ICT. However, findings also show that the school environment is not yet ready for ICT implementation and that policy and decision-making processes are suffering from a lack of clear vision and instability. The surrounding socio-political factors have a negative impact on educational policy in general and ICT policy in particular. This research also identifies some other barriers to ICT implementation and, finally, highlights some requirements for improving the implementation of ICT.

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## **List of Abbreviations**

<b>APE</b>	<b>Administration of Public Education</b>
<b>CAIT</b>	<b>Central Agency for Information Technology</b>
<b>CAL</b>	<b>Computer Assisted Learning</b>
<b>CBT</b>	<b>Computer-Based Training</b>
<b>CSCL</b>	<b>Computer-Supported Collaborative Learning</b>
<b>CSILE</b>	<b>Computer-Supported Intentional Learning Environment</b>
<b>DSL</b>	<b>Digital Subscriber Line</b>
<b>ESCWA</b>	<b>Economic and Social Commission for Western Asia</b>
<b>ICDL</b>	<b>International Computer Driving Licence</b>
<b>ICT</b>	<b>Information Communication Technology</b>
<b>IT</b>	<b>Information Technology</b>
<b>GCC</b>	<b>Gulf Cooperation Council</b>
<b>GDP</b>	<b>Gross Domestic Product</b>
<b>KDP</b>	<b>Kuwait Development Plan</b>
<b>KU</b>	<b>Kuwait University</b>
<b>MoE</b>	<b>Ministry of Education</b>
<b>KNA</b>	<b>Kuwait National Assembly</b>
<b>PAAET</b>	<b>Public Authority of Applied Education and Training</b>

<b>PIRLS</b>	<b>Progress in International Reading Literacy Study</b>
<b>SPE</b>	<b>Strategic Plan of Education</b>
<b>SPSS</b>	<b>Statistical Package for Social Science Software</b>
<b>SRS</b>	<b>Students' Registration System</b>
<b>TIMSS</b>	<b>Trends in International Mathematics and Science Studies</b>
<b>WSIS</b>	<b>World Summit of the Information Society</b>

# **Chapter One**

## **(Introduction to the Thesis)**

## **Introduction**

It can be claimed that the use of ICT as a means of communication and a source of information should help to make the teaching and learning process more effective for individuals in different educational environments (Higgins, 2003; GAID, 2009). Exploiting teachers' and learners' skills and experiences in some of these technologies may help to develop the learning process by giving the learner an opportunity to acquire language from more than one source. ICT usage can expand the learning environment outside the constraints of the classroom and encourage learners' independence and group study (Al Dhafeeri et al., 2006). ICT provides opportunities for English language learners to work collaboratively with other first language speakers. Nonetheless, the role of the teacher and pre-task planning are considered to be key issues in any learning situation. Walker (2003, P. 220) claims that the *“Computer Mediated Communication (CMC) programme could be beneficial to the students but... factors such as tutor presence and pre-planning of the task and facilitation style were significant factors in the success of the lesson.”*

Despite the uniqueness of any educational context, including the Kuwaiti context, my personal experience as a student at UK universities and reviewing various global literature, shows the support that ICT could provide to the teaching and learning process. E-mail, for instance, encourages learners to work independently and empowers them to learn autonomously (Warschauer, 1995). The most crucial issue is the tutors' ability to handle the task, and the preparation that precedes the class (Walker, 2003), in addition to the task's authenticity, meaningfulness and practicality (Chapelle, 2001). Research illustrates that the use of authentic materials through Internet-based English language teaching is bridging the gap between the classroom and the outside world (Wong et al., 1995). The literature review reveals a huge amount of educational materials that explore the potential ICT holds in the field of education. Many books are designed to help

interested teachers to use ICT in their classes and to provide collections of activities for classroom use (Dudenev, 2000). Literature around the globe shows various pedagogical potentials of ICT implementation and provides a good understanding about supporting and hindering factors facing technology implementation in many educational environments.

### **Rationale of the Research**

ICT has recently become a principal characteristic of our daily lives as a means of communication and is necessary for the majority of modern societies. Most of our official and personal daily needs are handled directly or indirectly by ICT starting with checking our e-mails every morning, paying our telephone bills, buying products on-line through to receiving cash from cash machines or booking a flight. The power of this technology has defeated traditional resistance to new inventions and it has become the dominant aspect of the twenty-first century.

The growing usage of ICT in education and in English language learning and teaching in particular was the main motive for undertaking this study. When the usage of ICT in most British and American schools and universities is examined, it becomes clear that teachers and educators in Kuwait need to think seriously about the Kuwaiti traditional methods of teaching. Awareness of ICT advances in education is a crucial requirement for all Kuwaiti teachers; they must update themselves with the rapid development of teaching methods. Fortunately, studies have shown that most Kuwaiti young people are using ICT and the number of Internet users in Kuwait is increasing (Wheeler, 2003; Al Bustan, 2005; Al Dhafeeri, 2005). This readiness of students to use new technologies may prove to be an advantage and facilitate teachers' tasks when implementing ICT in their classes.

After engaging in different postgraduate programmes in the UK during the last seven years, my pedagogic thoughts and beliefs about ICT implementation in general and

English language teaching and learning have changed. Most of that change is a result of attending several classes with different teaching methodologies, supported by a skilful usage of ICT. Usage of the Internet and related features such as e-mail, CMC, WebCT, e-learning and e-journals encouraged me to carry out this study to explore why teachers are not implementing ICT in government secondary schools in Kuwait. According to my 18 years' experience as an English language teacher in many Kuwaiti government schools and institutions and taking into account some recent informal discussions with several Kuwaiti and non-Kuwaiti teachers, ICT implementation in government secondary schools is very limited. This research seeks to discover what difficulties hinder the implementation of these technologies by teachers, despite the fact that the aim of implementing ICT in schools has been included in the Educational Strategic Plan (SPE) adopted by the Ministry of Education since 2002. Hence, the aim of this study is to investigate this area and try to provide the Ministry of Education in Kuwait with information that may support its strategic plans towards bridging the technological gap between the Kuwaiti educational system and other developed educational systems.

By simultaneously investigating this area in this specific context and time period the researcher is trying to add new insights to the knowledge of ICT implementation in secondary schools and in an educational context that has unlimited financial and socio-political support from both government and society. This support is available concurrently with the strong ascendance of the general implementation of ICT among individuals in society, both globally and locally, during the last few years.

### **Rationale for Selecting English Language Classes for this Research**

Research findings related to the usage of Information and Communication Technology (ICT) for English language teaching are growing in number by the day. While examining these reviews, I identified various topics related to my area of research. The

usage of ICT in Second Language Acquisition (SLA) has been related to learning theories based on Computer Assisted Language Learning (CALL) in the 1960s. Warschauer & Healey (1998) argue that one can distinguish three different stages in which computers have been used in language teaching and learning. These stages are known as: Behaviouristic CALL, Communicative CALL and Integrative CALL. This review focuses on the third stage or Integrative CALL, which is based on the view that language acquisition is a sociocultural activity that needs mediation and integration within context (Vygotsky, 1978). Warschauer and Healey argue that it is characterised by striving to engage the language learner in authentic contexts *"in integrative approaches, students learn to use a variety of technological tools as an on-going process of language learning and use, rather than visiting the computer lab on a once a week basis for isolated exercises, whether the exercises be behaviouristic or communicative"* (Warschauer & Healey, 1998, p.2). Within this understanding, technology needs to be integrated into the language learning process, along with the acquisition of reading, writing, listening and speaking skills.

Communication and the use of language are central components of learning from a sociocultural perspective. The process of learning a language is the process of socialising into a certain culture or community and learning how to think according to how people perceive and explain phenomena in those surroundings (Säljö, 2000, cited in Bergenholtz, 2004).

Berg and Collins (1995) claim that *"computer mediated communication signifies the ways in which telecommunication technologies have merged with computers and computer networks to give us new tools to support teaching and learning."* Using the Internet in language teaching can increase students' motivation and it is a circular benefit, since it is not only a matter of using the Internet to learn English, but also of

learning English to be able to function well on the Internet (Warschauer and Whittaker, 1997).

This research investigates the whole ICT implementation environment in government secondary schools in Kuwait through English language classes. The reason for focusing on English Language classes in this research is that English language teachers are able to overcome language barriers that other teachers who do not speak English face when trying to use ICT for their teaching. Walker and Creanor (2005) identify language as a significant boundary in online learning. English language is the dominant language on educational websites and is considered to be the international medium of communication on the web; therefore, it was preferential to eliminate language obstacles that could prevent participants of this study from using new technologies in their classes. In addition, English language teachers have the chance to benefit from the enormous wealth of English language teaching and learning materials available on the Internet, as Arabic educational websites are still few in number (Sa'aada & Sartawi, 2003; Al Dhafeeri et al., 2006).

Investigating barriers to ICT implementation in government secondary schools through English language teachers and classes is more reasonable than investigating this area through teachers who do not have the ability to deal with language barriers and do not have sufficient Arabic resources to offer their students. This study thus focuses on English language teachers, as they have language access to ICT and can access a huge amount of educational and linguistic resources. Outside class, teachers could prepare worksheets, create interactive activities, write course outlines, e-mail colleagues and students and correct written work for their pupils. They can also improve their professional development through online journals, discussion forums, downloading lesson plans and ideas, exploiting general teaching resources and developing their language abilities. In class, teachers can use presentation software to teach and guide



students to relevant resources on the web. In addition, students can use computers for activities that are creative, communicative and collaborative, for discovery learning and task based activities; for example: drill-and-practice programs, short answer quiz questions, word order activities, crosswords, matching exercises, vocabulary games, action mazes, adventures and simulations, exploratory programs, text reconstruction, data driven learning activities and web research (Thomas, 2005).

## **1.1 Primary Interest in the Area**

The metaphor of the information age has created a set of assumptions about the necessity for educational reform that will accommodate the new tools in educational systems (Pelgrum, 2001). Although implementation of new technology in education does not necessarily ensure a better education, the Ministry of Education in Kuwait has been paying increasing attention to establishing and developing ICT implementation in different sectors in the Kuwaiti educational systems over the last two decades (Alfureih et al., 1996; United Nations Global E-government Readiness Report, 2005). Although the Ministry of Education has taken different actions since 1990 towards ICT implementation including strategic planning, research, funding, training etc., there is still a lack of effective ICT implementation in classes in Kuwaiti government schools. As a teacher of English language at Kuwait University, the Public Authority for Applied Education and Training (PAAET) and different secondary schools in Kuwait and Saudi Arabia, and according to my experience of about eighteen years in most of those institutions, I have noticed that English language teachers and lecturers in those institutions and schools rarely use educational aids including ICT during their classes, although some rooms are equipped with advanced audio-visual systems. They generally use course books and the whiteboard; in the best situations, they may use a cassette player for some listening practice. An explanation of this observable fact might be an incorrect view of most teachers that adult learners do not need more educational aids and excitement in their learning process.

I became interested in the usage of Information Communication and Technology (ICT) in a secondary school in Kuwait, as I was conscious of the opportunities that ICT could present in education and in the teaching and learning process. My interest in this area was heavily influenced by my postgraduate studies in the United Kingdom during the previous seven years. This experience showed me how ICT might allow educational

institutions to build a bridge between the classroom and the world and allow students to experience real-world opportunities in the classroom (Al Othman, 2003). It is broadly argued that ICT provides teachers and learners with access to information resources and that technology helps schools to prepare students for the labour market. Furthermore, researchers have claimed that the usage of ICT in education helps to increase motivation and generally deepens understanding and could therefore offer new ways to access information resources that other methods have been unable to provide (Tearle, 2003; Wheeler, 2003).

My initial interest in this area focused upon the advantages of using ICT in teaching and learning and the reasons that prevent teachers in Kuwaiti secondary schools from implementing ICT in their classes. The government of Kuwait is investing a large amount of money in education in general and in plans related to the Strategic Plan of Education (SPE) and ICT implementation; however, outcomes are still some distance from the targeted objectives stated in SPE. Teachers in government secondary schools are still very limited in their usage of technology in teaching, (Al Harbi, 1998; Al Dhafeeri et al., 2006). Exploring and communicating some active government schools' websites in Kuwait showed that a very limited number of English language teachers at those schools are using ICT due to their English language competence, ICT skills and strong belief in using new technology in their teaching. Those teachers who try to use technology in their classes even face difficulties imposing their ICT activities on the syllabus, since it does not include any time for such activities and focuses on traditional teaching strategies.

Alongside my personal interests, I wanted to peruse some of the propositions in the literature in light of the suitable context and the requirements for better ICT implementation that support the teaching and learning process. Tearle (2003) claims that the government's massive spending and diverse efforts to bring ICT into schools did not

succeed in making teachers implement ICT in the classroom. She questioned if ICT has so much to offer, why is it still not have been taken by schools and teachers? This fact is one of the important issues this research seeks to explore and interpret in the educational environment in Kuwait; teachers' perceptions about ICT implementation need to be investigated in order to understand what hindering factors they are facing.

My interest has also developed to include investigation of the studies and research from which SPE has emerged and the circumstances that surround the execution of this strategic plan during the last eight years. Some research claims that the attraction of new technology in general and economic market forces have encouraged different decision makers in education in different countries to adopt ICT in schools (Cuban, 2001). My interest has also developed during the research process and, within limitations, seeks to look at deeper layers of the research arena in order to explore a range of socio-political issues such as external and internal political forces, ethical issues, work-values and morals and a wide range of related economic and socio-political issues in the Kuwaiti environment.

## 1.2 Exploration of the Gap

The educational field has recently witnessed a worldwide rapid growth of ICT adoption that is largely driven by economic and industrial demands, which have encouraged governments to adopt ‘national educational reforms’ (Cuban, 2001). It has also been presented as a means of better learning that will provide students with the requisite knowledge to prepare them for future labour markets. Governments in most developing countries, including countries in the Arab world, have initiated national programmes and strategic plans to introduce ICT into government authorities and schools. Even so, the progress of these plans and programmes seems to face a variety of difficulties that slow the momentum to reach the expected outcomes. Over the last two decades, many schools have been equipped with different types of new technology; however, the usage of these technologies in class is still very limited. Baylor and Ritchie (2002, p.412) assert that technology will not be useful unless institution members have the *“skills, knowledge and attitudes necessary to infuse it into the curriculum”* which will help teachers to be effective users of ICT and will enable them to implement new technology into daily life in their classrooms.

The implementation of ICT in education seems to be a complex process, since many driving forces have a crucial impact on the implementation procedure. In the educational system, one of these driving forces is the teacher who is considered to be a very important factor and may facilitate or obstruct changes that are outside the control of the Ministry of Education (Pelgrum, 2001). Many promising technologies fail to be implemented because they ignore teachers' views and needs. Consequently, this could influence teachers' attitudes towards the new technologies and could increase their resistance to change from their traditional methods of teaching. The development of teachers' positive beliefs regarding ICT is a key factor to increase computer integration

in class and to avoid teachers' resistance to the use of new technology (Ajzen & Fishbein, 1980; Watson, 2001; Tearle, 2004). Educational practice of new technology requires the development of positive user beliefs, as teachers' views have been found to have a direct effect on their classroom usage of computers. Teachers are among the most important agents of change in the educational environment and need to be considered when addressing any successful implementation of ICT in schools (Pelgrum, 2001; Al Dhafeeri et al., 2006). They need a positive attitude towards ICT in addition to adequate skills and knowledge that enables them to explore the potential of using and implementing new technologies in their daily classroom activities.

Another crucial force that needs to be considered in the implementation of ICT in developing countries is the sociocultural factor. Although ICT has long since been adopted among young people in many developing countries including Kuwait (Wheeler, 2003), it is still not an apparent part of culture in schools and has obviously not yet been adopted by teachers. Some research claims that successful implementation of ICT is subject to various sociocultural, technical, pedagogical and educational factors (Watson, 2001; Matthew et al., 2002; Abdelhameed & Alsayyed, 2004; Becta, 2004). Sociocultural factors related to students, teachers, parents and other related community organisations must also be considered. The integration of these factors, in addition to continuous monitoring and evaluation, is crucial for successful ICT implementation (Dillon & Ahlberg, 2006). Watson (2001) warns that a mismatch between technology culture and the teachers' pedagogic culture results in the "*alienation*" of the teachers from the usage of technology. Providing schools with recently developed technologies will not support ICT implementation unless teachers have the pedagogical competencies that integrate with other ICT requirements and enable them to benefit from new technologies. Therefore, developing countries willing to implement ICT into their educational systems need not only equip schools with sophisticated technology, but also

should consider sociocultural factors related to technology and pedagogy. This will drive this research to explore the pedagogical ICT competencies of teachers in Kuwaiti secondary schools and interpret their relationship with the planned ICT implementation.

The socio-political element is also among the crucial factors that play a major role in the process of ICT implementation in the developing countries. The political systems in many developing countries are governed and influenced by different political and social forces related to each country. Those forces have an impact on internal and external political decision making which minimises the stability of any medium or long term external or internal policies and strategic plans. The impact of different political circumstances on the external policy of any country could be considered to be normal worldwide, as such policies are governed by different international variables. However, the stability of internal policies with issues related to health, education, housing, labour and the economy is crucial for any developing or developed country. Some developing countries suffer from the instability of internal policies due to the power of different political forces that sometimes obstruct any development plans or programmes. In many developing countries, those internal political forces hold power due to the absence of a reliable constitution and regulations that govern and control political internal interaction. In some many cases regulations are available; however, the different political forces have the ability to overcome those regulations.

Kuwait's constitution took effect in 1962. It is considered to be one of the best constitutions in the Arab world since it governs the relationships among people, government and different civil organisations. This constitution was formulated after over 30 years of political interaction between the Kuwaiti people and the ruling family of Kuwait. The constitution controls the state, jointly, through the National Assembly of Kuwait and the Emir of Kuwait. However, Kuwait is still affected by the ruling family who are against this democratic constitution and whom pushed to terminate this

constitution between 1976 – 1981 and 1986 - 1992. This political internal instability has inevitably impacted on all development plans and programmes during the last three decades. This political interaction has impacted on educational plans and programmes, as ministers of education and representatives of key decision making positions in the Ministry of Education (MoE) change frequently. This instability in the educational environment hinders educators from planning and executing medium or long-term strategic plans including ICT implementation and, consequently, obstructs decision making related to public education in Kuwait.

### **1.3 The Gap in the Ministry of Education**

Kuwait is among the developing countries that are paying a great deal of attention to bridging the technological gap between their educational system and educational systems in developed countries. Since the 1970s, the Ministry of Education (MoE) has been keen to provide schools with adequate technology including films and tape recorders and, later, videos and overhead projectors and slide projectors. When PCs became popular in the 1990s, the Kuwait Government started providing schools' administration departments with computers. Since then, and especially since 2002, the MoE has spent heavily providing schools with all new ICT technology and has started providing in-service training for administration staff and teachers to enable them to implement new technology in their day-to-day activities. It has also spent money qualifying all teachers with the International Computer Driving License (ICDL) certificate to encourage them to achieve basic knowledge of ICT implementation. Although a lot of effort and money have been expended encouraging schoolteachers to use ICT as a teaching tool in their classes, this technology is used infrequently in practice according to personal observation and supervision during practicing teaching in Kuwait. Al-Hashimi (2002) claims that ICT is “*substantially under-utilized*” by teachers in



educational institutions and teachers continue to rely on more traditional teaching methods. The government of Kuwait and Ministry of Education has intended to develop the general educational system for a long period of time. This intention attracted a massive amount of financial and political support; however, ICT implementation seems to still be far from being part of the day-to-day activities of the Kuwaiti government schools.

Although the country has huge diverse resources to provide the best standard of education and despite the fact that in 2007/2008 spending by the Ministry of Education exceeded two billion pounds, the educational system is still considered to be one of the weakest in the region. A recent application of educational assessment programmes such as Trends in International Mathematics and Science Studies (TIMSS) and Progress in International Reading Literacy Study (PIRLS) that are designed to measure students' competencies in science, mathematics and reading, unfortunately showed that Kuwait is occupying a very poor position among participating countries. Al Rasheedi (2010) confirms that a lack of suitable and stable planning causes different problematic issues in all educational aspects including ICT implementation. This instability in planning and development programmes has resulted in several ad hoc educational changes that produced undesired educational outcomes.

Development programmes and strategic plans and projects which have been implemented in Kuwait over the last twenty years, including ICT implementation, have not been underpinned by sufficient educational research and very much depend on a trial and error strategy (Almufarrej, et al, 2007; Alrasheedi, 2010). The system of study in general education has changed several times over the last two decades. For example, the old system of four years in primary, four years in intermediate and four years in secondary school was changed to five in primary, four in intermediate and three in secondary school. This unplanned change has led to a social problem of bullying due to

the effect of putting a child of six years old who has just joined the school with a pupil in year five at the age of 11 or sometimes 12 or 13 years old if the student failed one or two years. This unexpected problem was partially solved by another unplanned decision a few years later to avoid having pupils older than 11 years of age in primary school. The MOE decided to implement the 'pupils' portfolio' as an assessment tool, by which pupils are promoted to the next highest class from primary school to intermediate school without undertaking any formal examination. This caused a new problem since intermediate schools started receiving students from the primary stage with major learning difficulties in various skills including reading and writing. The role of people in the field such as teachers and school principals has seemed to be neglected by different decision makers in MOE over the last twenty years according to the Teachers' Association of Kuwait (2010). Getting teachers and educators on board in the early stages of research and planning and, later on, in decision making processes is crucial due to their critical role in the implementation of new innovations in the field, Gorghiu et al., (2006).

This research seeks to explore the entire topic and to investigate what influential factors hinder ICT implementation in government secondary schools despite the historic intention of the Kuwaiti Government in reaching this goal. Are they national reasons or global ones, related to ICT global development? Are the hindrances to ICT implementation the same reasons behind the low achievement of Kuwaiti students in international assessment programmes, despite the huge resources possessed by the Ministry of Education? Thus, this study will investigate the different related areas, including educational management, strategic planning and the social, political and pedagogical aspects of the ICT implementation process.

#### **1.4 Aim of the Research**

This research aims to identify and understand influential factors surrounding ICT implementation in government secondary schools in Kuwait. It tries to broadly investigate and interpret supporting and hindering or problematic social, political, and educational circumstances around ICT implementation and the development of the Kuwaiti educational system. It plans to initially explore and evaluate any exciting ICT implementation, if any, in government secondary schools before investigating different layers of factors related to ICT implementation. Such factors will include strategic planning, infrastructure, human resources, teachers' preparation and training, teachers' views regarding ICT implementation and socio-political related issues. Although each of these factors could be a research area on its own, this research will try, within its limitations, to establish a comprehensive understanding of the barriers related to all these elements, as the educational environment is a 'whole situation' in which all these aspects correlate and intersect with one another.

This research began during the time when the usage of ICT in all government sectors was among the top priorities of the Kuwaiti government agenda (since 2002). It is also taking place during the execution of the first Strategic Plan of Education (SPE) of Kuwait, which was announced and formally started in June 2003. The educational sector in Kuwait, recently, has come encountered a variety of new policies, change processes and expectations related to ICT implementation. Those expectations and change plans target both teachers and the whole educational system, including schools and related administrations in the Ministry of Education (MoE). However, many people in the educational environment and related civil organisations in Kuwait would argue that the outcomes of the huge effort and funding are still failing to meet expectations, according to assessment programmes such as Trends in International Mathematics and Scientific Studies (TIMSS) and Progress in International Reading Literacy Study (PIRLS).

Different studies and reports in some developed and developing countries have determined different barriers and sometimes failure facing ICT implementation in different types of organisations, including educational institutions and schools (Cuban, 2001; Tearle, 2003; Al Dhafeeri et al., 2006; Cuban 2010). Those studies identified that, despite a different range of initiatives and supporting factors, limited success in ICT implementation has been achieved.

## **1.5 Research Objectives**

This study aims to identify factors that are both obstructing and influencing English language teachers in government secondary schools from implementing ICT in their teaching process. Prior to this study, the pilot study, (Appendix 11), found facts confirm the researcher's awareness and experience of the ICT situation in secondary schools in Kuwait and supported his personal information with evidence from students and teachers and evaluated if any progress has taken place since the researcher left teaching four years ago Pilot study was very important to find facts and to confirm or disconfirm the hypothesis of limit use of ICT drawn from personal experience. It explored actions taken by MoE regarding preparation for ICT implementation according to SPE released in 2003 and investigated current readiness of students, teachers, curriculum and schools infrastructure for ICT implementation. It also evaluated existing ICT implementation in government secondary schools and explored current difficulties regarding ICT implementation in government secondary schools.

This study aims to go deeper to investigate different layers of barriers to ICT implementation and influential factors related to the Kuwaiti situation. These broad aims are transformed into objectives, which are detailed in the next sections.

### **Objectives of the Study**

- To investigate readiness for ICT implementation in terms of schools infrastructure, curriculum and teachers' preparation and educational ICT competences.
- To explore ICT policies and strategies in the MoE.
- To explore teachers' views towards ICT implementation.
- To investigate teachers' views regarding any socio-political conditions hampering the usage of ICT in government secondary schools.

- To determine the main barriers to ICT implementation.
- To identify requirements for better ICT implementation.

## **1.6 Research Questions**

The main research question of this study is "What are the main factors influencing implementation of Information and Communication Technology (ICT) in government secondary schools in Kuwait and how do they operate?" This question has been disassembled into a number of sub-questions, distributed throughout the two parts of the research. The research aims to ascertain the facts about the background and the current level of ICT implementation in government secondary schools, to support the researcher's experience regarding the situation, and to check if any progress has been made since he left teaching four years before starting this study. It also seeks to explore and investigate more deeply the influential factors surrounding ICT implementation from in order to have a better understanding of the situation. In this deep investigation, information is gathered from different sources such as teachers, educational experts from MOE and from members of educational committee in the National Assembly through different data collection instruments. Objectives of this research are transformed into the following main sub-questions:

### **Research Sub-questions**

- To what extent are schools ready for ICT implementation in relation to ICT infrastructure, technical support, curriculum and teachers' ICT competences?
- What policies and strategies does MoE adopt regarding ICT implementation?
- What are teachers' views of ICT implementation?

- What are teachers' perspectives about socio-political factors hampering ICT implementation in government secondary schools?
- What are the main barriers to ICT implementation?
- What is needed for better ICT implementation in government secondary schools?

### **1.7 Significance of this Research**

Information and Communication Technology has been introduced into society by commerce, industry, governments and finally by entering people's daily lives through telephones, radio, TV, computers and the Internet. In most countries, education has had to follow these leading forces in order to prepare learners for a future labour market that requires a reasonable level of ICT literacy. Despite significant spending on ICT in education, the implementation of technology is still not a vital part of teachers' daily practice. This fact has led researchers in many developed countries to undertake different studies in order to understand ICT implementation in education and the factors supporting or hindering such implementation (Cuban, 2001; Tearle, 2003; Harrison, 2006; Becta, 2007).

A number of studies have been carried out to evaluate ICT implementation after a reasonable period of time; however, those studies have mainly been carried out in developed countries. Research that has been conducted in relation to educational ICT implementation in the Arabian Gulf region and in Kuwait is very limited and mostly focuses on the importance of ICT implementation in education in order to encourage governments to adopt plans to introduce technology in education. This stage of adopting ICT in education has already passed and most governments in the area have already accepted this idea; the question now is: what prevents ICT implementation from working and taking place in our schools?

Different global studies on verifying characteristics of ICT implementation in schools have taken place over the last two decades including critical ICT evaluation studies (Papert, 1993; Cuban, 2001; Tearle, 2004, Becta, 2007). Studies in the Arabian Gulf region are either still clarifying the importance of the use of new technologies or addressing the difficulties facing ICT implementation (Alfureih et al., 1996; Al Dhafeeri et al., 2006; Gharieb., 2007). All these global and regional studies, alongside other studies, have contributed an important understanding and valuable notions into different aspects of ICT implementation in education in general and in schools in particular. Despite the valuable information provided by these studies have and the fact that they form an important basis for this research, there are many essential issues related to ICT implementation in the Kuwaiti environment that need to be addressed, as they have not been adequately researched in the past. This study tries to gain a better understanding of the issues after the huge spread of ICT in society over the last five years.

Significantly, there is a lack of research related to ICT implementation in secondary schools in Kuwait and the very limited studies available are mostly related to the general usage of ICT in education and its importance for education. Aside from the fact that decision makers in MoE do not even consider research findings when making educational decisions ( Aldowaisan , 2010; Al Rasheedi, 2010), most of these limited studies about ICT implementation in Kuwait are small scale research achieved in the form of articles and are not even well linked to decision makers in the MoE. Available studies are always limited to one aspect of ICT implementation and do not take a wide comprehensive view to paint a complete picture of ICT implementation including all financial, pedagogical and socio-political factors. This research not only focuses on teachers and students in relation to ICT implementation in secondary schools in Kuwait, but also includes a number of experts and key decision makers in the MoE and teachers'



institutions and a number of educational experts from different civil and social organisation in Kuwait.

The Kuwaiti Government and other Arab governments in the region have already adopted the idea of embedding ICT in education and most of these governments have commenced strategic plans over the last decade, and even before, to develop their educational systems and include technology in their curriculum. In the case of Kuwait, actions towards the implementation of ICT were started from the liberation of Kuwait from Iraqi invasion in 1991 (Alfureih et al., 1996). These practical actions by the Ministry of Education in Kuwait were very much encouraged and supported by the government after the Education Development Conference, held in 2002. Nevertheless, despite all these efforts, years of work, huge spending and technology availability outside schools, teachers in secondary schools in Kuwait still do not implement ICT in their teaching and I have not found any research in this area that shows WHAT barriers are hindering ICT implementation in Kuwaiti secondary schools.

The timing of this study is very critical as it takes place a few years after the release and implementation of the Strategic Plan of Education (SPE) in 2003; thus, this study could be an evaluation tool for the progress of this plan. It is also contemporary since the huge Kuwaiti Development Plan (KDP) was released at the end of 2009 after very long political conflict between the government and the Kuwait National Assembly (KNA). In this regard, this study could draw the attention of the government and decision makers to the strengths and weaknesses of the SPE that could be considered during the implementation of the KDP, as it seems to be replacing or including the SPE. Although the MoE never looks at research findings before making educational decisions, it is our duty as researchers to provide a broad vision of ICT implementation, including all possible factors. This need for a broad vision becomes more urgent in this critical time in

Kuwait whilst plans for the development of education are on-going. This study focuses on research conducted during the period between 2005 and 2011.

The importance of this research is that it also tries to fill the gap caused by a lack of studies in this area by seeking to provide a broad vision of potential barriers to ICT implementation and not only focuses upon one side of the matter in isolation from other related components. ICT implementation is a sociocultural issue that is touched and influenced by a wide spectrum of entities in society, which need to be widely investigated in the Kuwaiti situation. This study also tries to contribute new knowledge to earlier similar global studies, such as Cuban's (2001) and Tearle's (2003), by identifying new understandings of the obstructions that hinder ICT implementation from taking place in Kuwaiti secondary schools, even though the recent spread of ICT in society has been huge. This research could as well become a helpful tool for decision makers in the Ministry of Education in relation to using technology in education, especially during this critical time due to the development movement taking place in Kuwait through the execution of SPE and KDP. In addition to filling the gap of research in ICT implementation in secondary schools in Kuwait, this study could also become a base for further research in the area regarding ICT implementation in education. In some developed countries, the question about ICT implementation could be: to what extent does ICT participate in educational reformation or revolution? However, in Kuwait and other countries in the area, there is still a need to investigate barriers facing ICT implementation.

### **1.8 Specific Area of Research**

During the last twenty years, ICT has become a remarkable feature of different modern and developing societies around the globe due to massive socio-economical and socio-political changes. This has led different governments to prepare for what is known as e-

government, where huge amounts of effort and funds are spent to introduce and spread new technologies in societies through governmental, non-governmental and private sector organisations. Kuwait, as a developing country, for example, reflected on the action plan of the World Summit of Information Society (WSIS) and elaborated a national strategy for preparing for an Information Society in 2004 in collaboration with Singapore. In addition to Kuwait's efforts relating to e-government since the Kuwait liberation in 1991, the Central Agency for Information Technology (CAIT) was established in 2006 to follow and observe e-government and e-culture development at all social levels in order to set up a comprehensive information society according to Economic and Social Commission for Western Asia. (ESCWA), (ESCWA, 2007).

ICT implementation in education is one of the most important issues to which governments of different developing countries, including Kuwait, are paying great attention during the period of introducing ICT to e-government in order to develop e-culture societies. Studies examining ICT implementation in developed countries have researched this issue for many years; moreover, some studies in both developed and developing countries are taking place now. Many of these studies focus on conditions and barriers against ICT implementation and some of them question the idea of the role of ICT implementation in facilitating and developing learning outcomes. The fact that ICT implementation should take place in school in order to be investigated and evaluated gave confidence to many governments to prepare for ICT implementation in education. This encouraged different governments to commence a variety of practical actions, including the establishment of strategic plans, educational reforms and a very high ceiling of financial support.

Despite the importance of investigating the role of ICT in raising learning and teaching standards and students' attainment, this research will not address this significant aspect and will be limited to investigating barriers against ICT implementation in Kuwait due

to two essential reasons. The first is the availability of many wide scale related studies in countries that have already implemented ICT in education and where ICT implementation is in the evaluation stage after a reasonable period of implementation; for example, ImpaCT2 1999-2002 (Harrison et al., 2003) and the ICT Test Bed Project 2002-2006 (Becta, 2007). The second is the fundamental lack of research into barriers against ICT implementation in the Kuwaiti educational environment. These types of studies are vital to support the Kuwaiti government and the MoE in executing their current plans towards ICT implementation. This support could be offered by this study through a broad investigation to identify different strategic, social, political and pedagogical barriers hampering the government's plans to achieve its announced goals released in 2002 and 2003. During the last eight years, many ICT implementation projects have been postponed several times in favour of new deadlines after announcing different technical, logistical and pedagogical reasons which indicate that the MoE is facing problematic circumstances related to its initial plans.

The fact that these indications of difficulties facing the MoE in executing ICT implementation plans exist questions whether ICT will be implemented in a way that will support learning and teaching processes. Even if the MoE can overcome the barriers and difficulties against ICT implementation, will it reap the benefits of developed countries' experiences in this field or just continue the trial and error strategies followed during the last decade (Al Rasheedi, 2010)? This study will not attempt to see into the future and will focus on identifying barriers obstructing ICT implementation; moreover, it will try to identify factors that support the useful implementation of technology in our schools. Those barriers have even defeated the £2.2 billion spent in 2007/2008 on education, which means the average annual cost per student in Kuwaiti government schools has exceeded £6,500 per year. This means it is necessary to place the plans of the MoE and policies of those executing the plans, in addition to other pedagogical,

sociocultural and socio-political factors, under investigation in order to achieve a better understanding of factors blocking the progression of ICT implementation in our secondary schools.

This research does not focus on classes in secondary schools because ICT implementation in classes in primary and intermediate schools is in a better situation, but due to essential purposes related to the readiness of students and teachers and MoE plans for ICT implementation. Students at an age above 14 years old in Kuwaiti society are more prepared to use ICT than students at earlier ages, as teenagers started using computers and the Internet from home and public Internet cafés in different places around Kuwait a few years ago (Wheeler, 2003; ESCWA, 2005). In addition, the MoE is focusing its plans for ICT implementation on the secondary stage more than other educational stages for the same reason. At the time of writing, the MoE (2008) pledged that all secondary students would receive laptops before other students at other educational stages once the project of laptop distribution had taken place in 2009 or 2010. In other words, students in secondary schools, according to their ICT literacy and MoE plans, are supposed to be able to implement ICT more effectively than students at other educational stages; therefore, the barriers facing them should be fewer than the barriers facing students at other educational stages. This choice could minimise the variables that could affect ICT implementation and will focus the investigation onto direct barriers that impede the progress of the MoE's plans for ICT implementation.

The reasons behind selecting English language classes in particular to be the focus of this study are similar to the reasons for selecting the secondary stage students in order to minimise the obstructing variables that could constrain ICT implementation. Bearing in mind that most of the learning and teaching materials available on the Internet are written in English, teachers of English language will be able to overcome the language barrier that prevents many teachers who have not mastered the English language from

accessing those materials. In addition, the Internet is rich in materials related to English language learning and teaching, which gives learners and teachers of English language more scope regarding ICT implementation compared with Islamic Studies or the Arabic language or any other subject. This choice of research sample will help this study to minimise factors like language difficulties and the readiness of students and teachers to implement ICT and will focus on basic difficulties related to other factors. Nevertheless, this study will also investigate students' and teachers' general readiness for ICT implementation and will not solely rely on the fact that they have a better chance to use ICT due to language ability.

This research alone cannot be expected to provide a final solution in relation to barriers facing ICT implementation in the educational system in Kuwait. Nevertheless, outcomes from investigating the broad direct factors influencing ICT implementation will hopefully provide a novel interpretation that could be useful for teachers, decision makers and further research. Highlighting different areas related to ICT implementation in the context of this study could be a supportive tool to help teachers, schools principals and decision makers to have a broad understanding of this issue. This understanding of ICT implementation, formulated from a global literature review, led to dealing with ICT implementation as an integrated long-term change process that includes strategic planning, infrastructure, curriculum, students, teachers, and other related social, cultural and political factors. Therefore, this research addresses a wide spectrum of elements starting with the participation of students and teachers through to questionnaires and interviews and a deep analysis of different documents related to ICT implementation. These instruments were supported by final interviews with key teachers, educators, experts and decision makers in different related organisations.

## **1.9 Organisation of the Thesis**

This study comprises eight chapters followed by a bibliography and appendices. The first chapter presents the primary interest of this study, including exploring the gap in general literature and the Ministry of Education. This chapter also includes the aim of the study, the objectives and the research questions. In addition, it also includes the significance and specific area of the research.

Chapter two presents the study background in detail in terms of the sociocultural situation and educational system in Kuwait. It also includes educational development plans and strategies that have been undertaken by the Kuwaiti government over the last two decades and different surrounding circumstances.

Chapter three examines the literature review on areas relating to the research questions. Many of the studies included in this chapter aim to understand different barriers to ICT implementation and form a perspective from which this study's data can be compared and interpreted.

Chapter four describes the research theoretical framework directing the study and the methodology. This includes the implementation of the mixed methodology approach and the rationale for its adoption in this research. It also includes a description of the methods implemented for data collection in the study, sampling, the data collection process, limitations and ethical issues. Chapter five presents a summary of findings of the pilot study and describes findings and data analysis of this main study. It analyses findings related to the deeper social, political and pedagogical layers of barriers surrounding ICT implementation in secondary schools in Kuwait. Chapter six discusses the findings of the study in relation to the literature and findings of the pilot study. Finally, Chapter seven summarises the main findings and recommendations of the research. It also suggests areas for further research.

## **1.10 Summary**

This chapter has provided an introduction to the study and its area of interest. The rationale of the study and the reason for focusing it upon English language teachers is presented. This is followed with a presentation of the background of the area of interest and an exploration of the research gap. Next, the research's aims, objectives and questions, and the significance of the study, have also been presented. Finally, the structure of the thesis has been described. The next chapter will focus on the research context and background.



## **Chapter Two**

**(Background and Context of this Study)**

## 2.1 Location of Kuwait

The State of Kuwait is a small developing country located at the northwest end of the Arabian Gulf (see Figure 1). It covers around 17,820 square kilometres and had a population of 3,399,637 in December 2007, according to the Authority of Civil Information. The number of Kuwaitis reached 1,054,598, while the rest of the population comprised non-Kuwaiti residents.



**Figure 1: World Map**

Source: Geology.com, 2007, <http://geology.com/world/kuwait-satellite-image.shtml>

Kuwait is bordered by three countries that are important in the Arab world and the Middle East. From the south and the southwest, it shares a border with the Kingdom of Saudi Arabia and from the north and northwest it is bordered by the Iraqi Republic. On the east, it faces the north-western coast of the Arabian Gulf, where its sea borders encounter the western sea borders of the Islamic Republic of Iran (see Figure 2). This location has historically been very strategic and remains so in the present. Kuwait was situated in the middle of the 'Silk Routes' of trade that linked different countries in South-east Asia with other parts of the world, namely the Northwest of Asia, North Africa and Europe. Trade used to come from India and China to Iraq, Syria (Sham) and other countries in Northwest Asia through Kuwait Port for hundreds of years.

This significant location has encouraged Kuwaiti people to be open to other societies by receiving different people from surrounding countries and from far destinations like India, Pakistan and Iran, from Middle and Southeast Asia and other Arabic countries in the Northwest of Asia. Besides the traditional trade of pearl diving, this also encouraged Kuwaitis to work in travel and trade, mainly with India and other Asian countries, which enriched the experiences of Kuwaiti traders and broadened their vision regarding different nations and cultures. In the 19<sup>th</sup> century and at the beginning of the 20<sup>th</sup> century, Kuwait was one of the most important ports in the region since it operated more than 800 wooden ships for pearling and trade purposes.



Figure 2: Kuwait Map

Source: Geology.com, 2007, <http://geology.com/world/kuwait-satellite-image.shtml>

## **2.2 Brief Historical Review**

Kuwait was first identified as a social and political entity in 1756 when the people selected Sabah the First as the first Ruler (Emir) of Kuwait. During the 18<sup>th</sup> century, the small country managed to survive among major political powers; however, during the 19<sup>th</sup> century its independence was threatened by regional and international powers. To protect Kuwait from the ambitions of those powers, Sheikh Mubarak AlSabah (1896-1915), the seventh ruler of Kuwait, signed a strategic protection treaty with Great Britain in 1899. After World War II, exploration and production of oil transformed Kuwait from a small Emirate into an international influential developing country. The treaty with Great Britain was cancelled in 1961 and Kuwait became independent and joined the Arab League in 1961 and the United Nations in 1963.

Kuwait has adopted a unique political system since its first existence by applying an Islamic political system, 'Shura', whereby the ruler is obliged to consult the people before making any important decisions. After the independence of Kuwait, this political system was modified into a more organisational system by the issuing of the Kuwaiti constitution on November 11, 1962 at the time of the 11<sup>th</sup> ruler of Kuwait, Sheikh Abdullah AlSalem. The Kuwaiti constitution is known as one of the most developed constitutions in the region since it offers active participation in the political decision making of the country to the nation and offers a very respectful level of freedom and justice. In 1963, the people of Kuwait were called for the first election after Kuwaiti independence to elect members of the first constitutional session of the Kuwait National Assembly (KNA). Since then, power has been shared between the National Assembly and the Emir of Kuwait according to the Kuwaiti Constitution, which states that any governmental law has to be issued by an Emiri decree and this Emiri decree has to gain the approval of the National Assembly to be valid and applicable.

This sharing of power encountered difficulties during 1967, 1976 and 1985. In 1967, the government tried to interfere in the election and change some of the results in its favour, which led to violence between the government and National Forces. In 1976 and 1985, the National Assembly was 'unconstitutionally' terminated by the Emir of Kuwait for around four years in the first instance and around six years in 1985. This led to political conflicts between the government and political National Forces, which subjected Kuwait to various internal and external instabilities. In the first unconstitutional termination in 1976, the government tried to change some articles of the 1962 constitution. In 1990, Kuwait was invaded by Iraq under Saddam Hussein and kept under occupation for around seven months. International allied forces led by the United States and Britain liberated Kuwait on the 26<sup>th</sup> of February 1991.

During the occupation of Kuwait in 1990, the Jeddah Conference was held between the government and the National Forces to show the Kuwaiti people solidarity with their legal government against Iraq and Saddam Hussein. At the conference, the Kuwaiti government committed to the National Forces that they would work according to the constitution of 1962 after the Kuwait liberation and would respect it and never terminate it. After the liberation of Kuwait, the government called for an election in 1992. Nonetheless, the constitution was 'constitutionally' terminated in years 1999, 2006, 2008 and 2009; fortunately, an election was called every time within the constitutional time frame. Although these repeated terminations are within the constitutional regulations, they reflect the unstable internal political situation of Kuwait over the last 11 years. Kuwait is now ruled by the 15<sup>th</sup> ruler of the country, His Highness Sheikh Sabah Alahmad AlSabah.

## **2.3 Educational System in Kuwait**

### **2.3.1 Early Education**

After the formation of Kuwait, similar to other Emirates in the Arabian Peninsula, education was provided through a number of Quranic schools teaching religious instruction and basic Arabic literacy and counting guidance to boys and girls. In 1911, the Al Mubarakiyya School was founded as Kuwait's first modern educational institution. It was founded as a private school funded by Kuwaiti traders and was built to supply the Kuwaiti labour market with employees who had basic knowledge of accounting, record keeping and letter drafting skills. Those types of jobs were required to meet the needs of the developing economy of Kuwait at that time. Subjects like history, geography and art were added to the curriculum at a later stage. In 1921, the Al Ahmadiya School was opened, as the number of students was increasing due to parents' realisation of the importance of education. In the same year, the first library was opened. A few years later, the first girls' school was established teaching Arabic language, Islamic studies and home economics.

### **2.3.2 Formulation of a New Educational System**

In 1936, Kuwait established the Council of Knowledge, which consisted of 12 elected members. The council was responsible for educational funding and was dependent on donations and charity during the early stages; however, the ruler of Kuwait at that time, Sheikh Ahmad Al Jabir Al Sabah, agreed to assign 0.5% of the emirate's income, generated from customs charges, to educational funding. In 1936/1937, the Council of Knowledge brought teachers from Palestine to help develop the educational system in Kuwait. Primary education and secondary education was not completely determined until 1942, when many schools were opened and more teachers were brought from

Palestine, Egypt, Lebanon, Syria and Iraq. In 1954, the Vocational Secondary School was established to prepare young Kuwaitis for the technical labour market.

In 1955, the first kindergarten was established and the educational system was modified to be two years for kindergarten, four years for primary school, four years for intermediate school and four years for secondary school. The council was also interested in providing education for special needs students and the Al Noor School was established in 1955 for blind and deaf pupils. A few years later, private education increased in addition to public education through the establishment of more new private schools. After the cancellation of the British protection treaty in 1961, the first Kuwaiti cabinet was founded and the Ministry of Knowledge replaced the Council of Knowledge. In 1965, the name was changed to the Ministry of Education (MoE) and it started to undertake different educational development projects after establishing general guidelines and aims for public education in Kuwait. New steps were taken to fight illiteracy and make education free and compulsory for all Kuwaitis.

Kuwait has been concerned about higher education for a long time, since it sent the first group of male students to Baghdad to study in The A'adhameiya College in 1924 in order to prepare them to teach in Kuwaiti schools. The first group of female students was sent to Cairo in 1956 to receive their higher education. Kuwait University (KU) was opened in 1966 and The Public Authority for Applied Education and Training (PAAET) was established in 1982. In those two higher education institutions, different colleges and technical institutions provide different educational high degrees and special technical studies in many educational fields that are needed for the Kuwaiti labour market. Scholarships are granted to graduates from KU and PAAET to follow their postgraduate studies in the United States, United Kingdom and other countries around the world. The MoE has tried, since its earliest existence, to prepare Kuwaiti nationals to be part of the educational system in Kuwaiti schools and it has succeeded to educate 30% of Kuwaitis.

### **2.3.3 Current Educational System**

*“Education is a fundamental requisite for the progress of society, assured and promoted by the State.”* Article 13 (Education);

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

Article 40 (Compulsory and Free Education)

(Constitution of Kuwait, 1962).

The Kuwaiti government’s plans to transform Kuwait into a modern society consider education, healthcare and housing as the top priorities of the government and National Assembly. According to the UNESCO Institute for Statistics (2009), Kuwait is now devoting 3.8% of its Gross Domestic Product (GDP) that forms 12.9% of total annual government expenditure to education, which is offered free of charge for all Kuwaitis and is compulsory for all Kuwaitis between the ages of 6-14. The challenges of the new millennium have reinforced initial government commitment to develop local human resources as a major component of general Kuwaiti social and economic development. This commitment and willingness to provide educational opportunities to all Kuwaitis has led the government to be very supportive of all plans and efforts of the Ministry of Education (MoE) and Ministry of Higher Education towards the development of education.

The Ministry of Education is supervising all stages of education in all schools around Kuwait through two main educational areas: public education and private and qualitative (special need and prevocational) education. After finishing secondary school, students continue their education in any of the higher education institutions in Kuwait or in any country around the world and responsibility for those students is passed to the Ministry



of Higher Education. The Ministry of Higher Education supervises higher education in Kuwait University, private sector universities in Kuwait, colleges of Public Authority of Applied Education and Training (PAAET) and all students in higher education institutions outside Kuwait. The investigations of this study will not focus on institutions of higher education and will concentrate on the Ministry of Education (MoE) and directly related parties, as the aim of this research is to investigate barriers to ICT implementation in secondary schools supervised by the MoE.

### **2.3.3.1 General Aims of Education in Kuwait**

The Ministry of Education has issued the Document of General Aims of Education in 1976. The comprehensive aim of education in Kuwait is:

*“Helping learners for comprehensive and integrated spiritual, mental, social and psychological grew up to the maximum of their competences and possibilities and enabling them for personal self-achievement and for constructive participating in achieving progress of the Kuwaiti society, the Arab World, the Islamic World and humankind in general.”* (MoE, General Aim of Education)

The Ministry of Education has realised the volume of responsibility it has to face in order to interact with different future challenges related to education in Kuwait. In relation to future challenges and keeping up with the modern and fast developing scientific and technologic revolution, the MoE has comprehended that it has to develop an educational philosophy and devise the components of the educational system in Kuwait. Consequently, the MoE has decided to direct all its human and financial resources to achieving five main educational aims:

1. Practical interpretation of the ambition to build the Kuwaiti citizen according to a scientific way of thinking and developing learners' competencies at

different educational stages to comprehend scientific styles and its practical implementation in different fields needed for society.

2. Opening global information resources to the Kuwaiti learner in all areas of scientific and technologic revolution, and at the same time, motivating interest in Arabic and Islamic heritage and employing it towards spiritual superiority and basic values and patriotism.
3. Continuous supporting and developing of schools, institutions and adult learning centres to keep up-to-date with scientific and technological progress and developing systems and policies to deal with distinctive learners, teachers and administrators to develop traits of innovation and professionalism and a feeling of belonging to educational institutions.
4. Equal distribution of educational services and activities in all areas of the country and continuous efforts to deliver information and science to the residence of the Kuwaiti citizen.
5. Paying more attention to preparing and developing national human forces working in educational fields and reducing dependence on the expatriate work force in these fields without affecting the quality of the educational process.

### **2.3.3.2 Objectives of Secondary Education in Kuwait**

The major objectives for secondary education in Kuwait include:

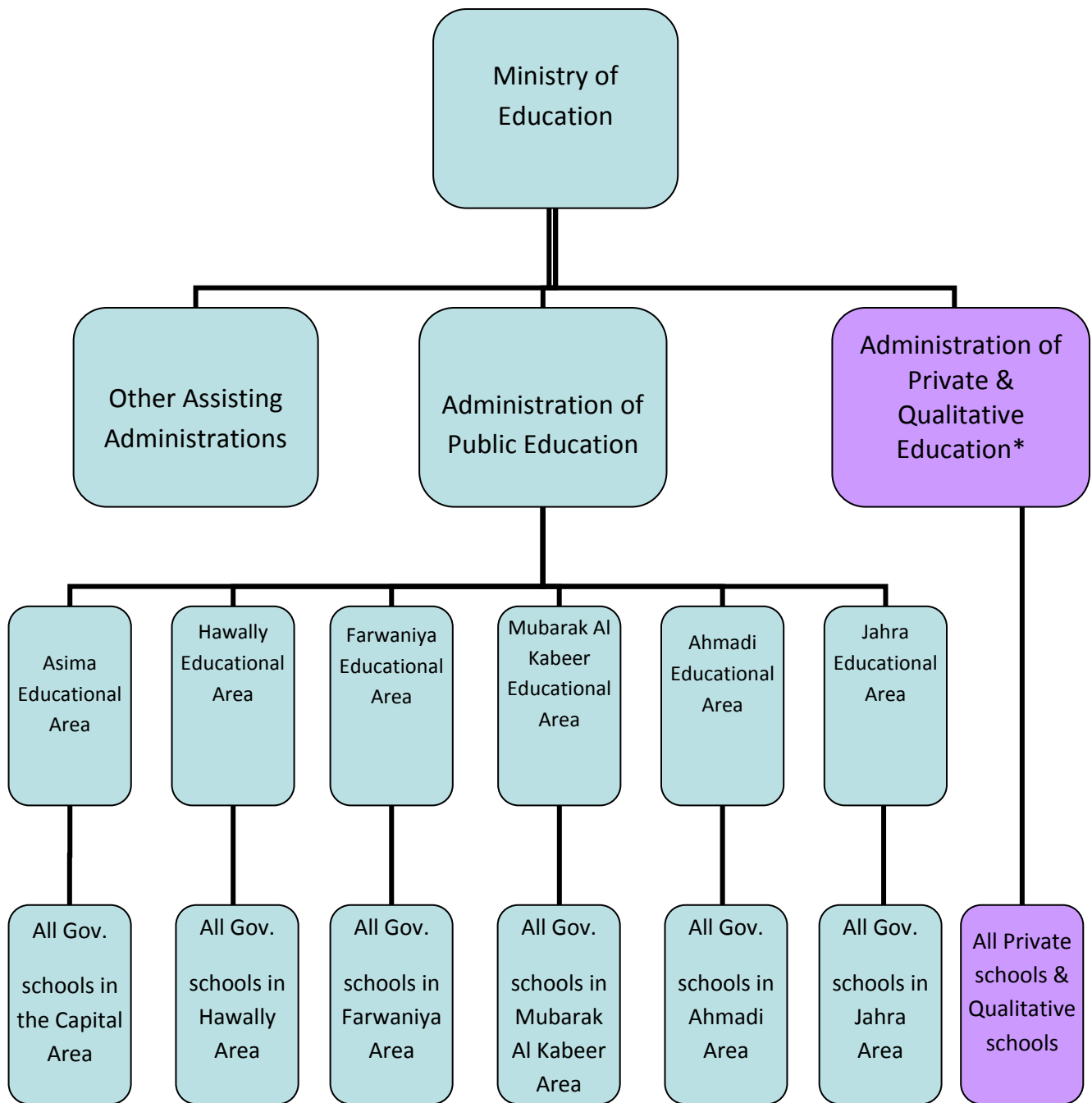
1. Strengthening faithfulness to the Islamic, Arabic and Kuwaiti nation, as well as ambitions to achieve the highest social standing and develop a strong physical constitution, suitable for the students' age.
2. Taking care of students according to Kuwaiti culture, addressing their intellectual and emotional problems, and helping them towards a successful future.
3. Developing students' abilities socially, physically, psychologically and educationally.
4. Preparing students to follow up their studies at various levels in higher education and preparing them to work in various fields of social activities.
5. Encouraging students towards useful reading and the aspiration to broaden the extent of their knowledge and productive work and to use their free time on activities that develop their characters.
6. Reinforce the feeling of family solidarity in order to construct a solid community.
7. Developing students' abilities in scientific thinking and encouraging their spirit of research, analytical abilities, use of information resources, and the practice of academic activities (MoE, 2005).

### **2.3.3.3 Structure of the Ministry of Education**

The Ministry of Education in Kuwait manages all types of schools via two main administrative departments: Administration of Public Education and Administration of Private and Qualitative Education, supported by a number of assisting administrations. The Administration of Public Education manages government schools in six educational areas that are geographically distributed all over Kuwait. Those educational areas are:

- 1. The Capital Educational Area.**
- 2. Hawally Educational Area.**
- 3. Farwaniya Educational Area.**
- 4. Mubarak Al Kabeer Educational Area.**
- 5. Ahmadi Educational Area.**
- 6. Jahra Educational Area.**

Any government school in Kuwait is observed and administered by one of these educational areas, while all private and qualitative schools fall under the Administration of Private and Qualitative Education. (See Figure 3)



**Figure 3: Administrative structure of schools in the MoE**

\*qualitative education includes special need education and occupational education.

The Administration of Public Education (APE) in Kuwait supervises and administrates all government schools: kindergarten, primary, intermediate and secondary. Government schools in Kuwait are totally funded by the government and, since education is compulsory for all Kuwaitis until the age of 14, students are not liable for any fees to benefit from public education. Students in government schools are mostly Kuwaitis; however, some non-Kuwaiti students are allowed to benefit from the free education provided in government schools (these non-Kuwaitis are dependents of teachers, doctors and other important professionals working for the Kuwaiti government). The number of learners in government schools in 2007/2008 was over 330,000 students joining at different educational stages (see Table 1).

**Table 1: Number of schools, students and teachers in Kuwait in 2007/2008**

	<b>Number of Schools</b>	<b>Number of Teachers</b>	<b>Number of Students</b>
<b>Public Education</b>	<b>638</b>	<b>32482</b>	<b>330553</b>
<b>Private Education</b>	<b>371</b>	<b>7902</b>	<b>135839</b>
<b>Qualitative Education</b>	<b>85</b>	<b>2373</b>	<b>14182</b>
<b>Total</b>	<b>1094</b>	<b>42757</b>	<b>480574</b>

Source: MoE, (2009)

All government schools are completely administered and run according to the policy of the Ministry of Education through the Administration of Public Education, including setting up the private and general aims of the curriculum, designing the syllabus, recruiting teachers, evaluation and all other educational issues.

The Administration of Private and Qualitative Education supervises and administers all normal private sector schools, special need schools and occupational schools around Kuwait at all educational stages. Private schools are self-reliant and annual fees vary between £800 and £5000, according to the level of the school, grade (from play groups up to high school) and the standard of the school that could vary from normal Arabic, Indian, Pakistani or Philippine private schools up to model or bilingual private schools. Students in private schools are mostly non-Kuwaitis. However, students in model or bilingual private schools that provide a high standard of education are a mixture of Kuwaiti and non-Kuwaiti students. The Ministry of Education, through the Administration of Private and Qualitative Education, monitors private schools; however, those schools have a certain degree of independence in curriculum and syllabus design and decision-making. This provides the schools with a kind of autonomy in policymaking, decision making and recruitment of teachers. These schools are free to design or adopt any well-known curriculum according to the needs of the students they wish to receive. Nonetheless, these private schools are obliged to follow the policy of the Ministry of Education in teaching Arabic Language and Islamic Studies and to cover the general aims of education in Kuwait.

Additionally, the Administration of Private and Qualitative Education supervises and administers schools for students with special educational needs and schools preparing students with occupational education. As the government has been interested in providing education for special needs students for a long time, the Al Noor School was established in 1955 for blind and deaf pupils. Since then, other public special needs schools and many other specialist private schools have been opened for students with various disabilities and different special needs. All these schools are under the supervision of the Administration of Private and Qualitative Education, including those

specialist private schools. The MoE pays the fees of private specialist schools for all special needs Kuwaiti students. In some schools, the fees of some special needs students could exceed £10,000. The MoE aims to provide students in those schools with the maximum possible learning opportunities that they can afford, in order to prepare them for suitable jobs in society or to help them to take care of their personal needs independently.

### 2.3.3.4 Secondary Schools in Public Education

Secondary public schools are distributed all over Kuwait under the management and observation of the six educational areas. Table 2 below shows the number of public secondary schools and secondary students in each educational area:

**Table 2: Number of secondary schools and students in educational areas in 2007/2008**

Areas	Asima	Hawally	Farwaniya	Mubarak	Ahmadi	Jahra	Total
Boys	6411	5256	4458	3758	4864	3254	28001
Schools	13	10	10	7	13	7	60
Girls	6598	5058	6521	5448	6704	5169	35498
Schools	11	9	13	7	16	9	65

Source: MoE (2007/2008)

The number of public secondary schools in Kuwait is 125. This number is split into 60 boys' schools that provide secondary education for 28,001 boys and 65 girls' schools, which serve 35,498 girls studying at the secondary stage (see Table 2). According to the



annual report of Educational Spending and Student's Cost for the educational year 2007/2008 issued by the Finance Administration at the MoE, the general budget of the MoE for year 2007/2008 exceeded £2,200,000,000 (2.2 billion pounds).

The average annual cost of each student in public secondary schools in Kuwait, according to the report, was around £6,000 for boys and £7,000 for girls (£1,000 - £2,000 higher than any respected standard private secondary school in Kuwait). Around 60% of the budget of secondary schools is spent as salaries for teachers, administrators and assistance employees. Alenezi (2009), claims that salaries in MoE are increasing and about to consume more than 90% of the budget of general pre-university education. The annual educational spending report in 2007/2008 revealed that around 21.7% of the secondary stage spending was directed towards buildings (mainly schools) and 3.3% was for school equipment. 13% of the budget was spent on the MoE's administrative charges. Moreover, 2% of this spending at the secondary stage was for printing books, water, electricity and stationery and a further 2% of the budget was allocated for other expenses such as transportation, telephones and sundries. The annual report did not show the volume of spending related to the implementation of ICT in government schools; however, from the available figures, where 84.7% of the educational spending for the secondary stage was directed towards salaries, buildings and administration, it seems that either ICT was allocated a very limited part of the financial plan of the Ministry of Education in 2007/2008 or that inattentiveness or misconduct of this huge educational budget was taking place. Many people and different Kuwaiti civil organisations are not satisfied by the quality of education provided in government schools and often complain about the lack of professional planning and management of the educational process in Kuwait (Alenezi, 2009; Faris et al., 2009).

### **2.3.3.5 Teachers' Preparation and Training**

The nationalities of teachers in government schools are mainly Kuwaiti, Egyptian and Syrian. There are a few teachers from other Arabic nations working in government schools after Palestinian and Jordanian teachers were banned from teaching in Kuwait for more than 15 years. That ban was due to the Palestinian and Jordanian governments' offensive attitudes towards Kuwait during the Iraqi invasion of Kuwait in 1990. In contrast, teachers in private schools differ from one school to another according to the nature of the school and the community it serves. For example, teachers in Arabic private schools that serve Arabic students (who are not liable for fee exemption in government schools) are from different Arabic countries. Private schools, that serve specific communities (Indian, Pakistani, Philippines, etc.), mostly employ teachers from the same community. Model and bilingual private schools employ teachers of different nationalities including English, Australian and American.

Kuwaiti teachers attain their preparation qualifications from two main teachers' preparation institutions in Kuwait: the College of Education in Kuwait University (KU) and the College of Basic Education under the Public Authority of Applied Education and Training (PAAET). The College of Education in KU was established in 1983 and the College of Basic Education in PAAET was initially established in 1972 as The Teachers' Preparation Institution and was developed to be the College of Basic Education in 1986. Very few Kuwaiti teachers gain their teaching qualifications from other universities outside Kuwait. Most Kuwaiti teachers work in government schools and a few works in private schools. Non-Kuwaiti teachers in government and private schools are qualified by colleges of education in their countries.

Teachers in government schools are trained, guided and monitored by head teachers, mentors and school principals during their service in schools. According to mentors' recommendations, some teachers attend training courses arranged by the MoE through the Unit of Professional Development or Unit of In-service Training. Those courses provide a broad spectrum of training activities aimed at specific professional skills including lesson preparation, class activities training, new teaching methods and enlightenment according to different pedagogical areas. ICT preparation and training has been a major concern of the MoE since 2002. All working teachers in government schools were funded to gain the International Computer Driving Licence (ICDL) certificate to prepare them to implement ICT in their teaching. ICDL became a main condition for employment of any new teacher starting from the educational year 2008/2009 according to MoE new employment regulations.

#### **2.4 MoE Strategy of ICT Implementation**

The aim of introducing ICT to the Kuwaiti educational system is generally to ensure that education becomes more efficient and meets different social, economic, educational and industrial needs of the Kuwaiti community. This could be executed by preparing students to interact with an advanced technological environment where computers and databases are the basis for modern development. Preparing students should enable them to use technology as an educational tool to develop learners' competencies in problem solving, organisation, understanding, information analysis and creativity. It should also reinforce the spirit of teamwork among students through the medium of group work and enable students to appreciate the importance of ICT in developed societies (MoE, 2005; Al-Wakeel et al., 2005).

Since the introduction of information technology in education in different countries around the world, the Ministry of Education in Kuwait has tried to be among the developing countries that include new technologies and learning aids in their educational systems. It wants to equip schools with any new technological equipment that could be used as an educational aid to facilitate the learning and teaching process and to provide its students with an adequate and developed education. Kuwaiti National Assembly discussed the financial plan of the government in 2006 and showed that budget of the Ministry of Education became the second biggest budget after the Ministry of Defence with a share of around 10% of the general budget of the state.

When computers, the Internet and different types of ICT crossed the threshold to the field of education, the Ministry of Education (MoE) tried to adopt all the policies and means of implementing ICT in education. The Ministry of Education began to show an interest in computers in 1982 when it first introduced computers to some schools and established committees to prepare required related studies. However, the main action in this regard is considered to be the inclusion of the subject of IT (Information Technology) in all intermediate schools in Kuwait as a starting point before including the subject in all other stages. This project started in the academic year 1994/1995 and was planned to be completed in 2003, at which point the subject of Information Technology should be part of the curriculum of 164 intermediate schools in Kuwait and to be gradually move up to the secondary schools, (Alfureih et al., 1996). In the beginning, the topic of IT was taught to intermediate students for one hour per week. However, it was increased to two hours per week and, within a few years, IT teaching was applied in primary and secondary schools. IT in intermediate schools aimed to introduce computers and other IT hardware to students and to teach them basic information about how computers work. At the early stages of introducing IT in

intermediate schools, the subject used basic software, mainly related to mathematics and logical thinking, such as Logo. The reason for starting IT at the intermediate stage and, later on, in primary schools, was to prepare students, in a short period of time, for future higher levels of ICT implementation when they started at secondary school. In 2000, the MoE included this target as one of its major aims of its new Educational Strategic Plan (officially issued in June 2003). In the educational year 2000/2001, the Ministry began to pursue different practical actions to prepare an appropriate environment for the implementation of ICT in education. For example, it started increasing the number of computers in all educational administrations and areas, and established its own website to provide teachers, students and employees with important information related to the educational process. In addition, the Administration of Development and Growth in the MoE introduced various types of continuing training courses for employees and teachers in different administrations and schools. Undertaking such courses has become one of the major factors of promotion for all employees and teachers. In order to gain a clear idea of the content, the researcher went through some documents about these courses that were given to teachers and employees of the Ministry of Education over the last five years. These dates of these sample documents vary between the year 2000 and 2009 and mainly address administrations' and schools' employees and teachers.

Recently, many schools have been equipped with computer rooms for Information Technology (IT) and Internet access at the administration offices. Moreover, the subject of IT has been included in the curricula of all educational stages in government schools, primary, intermediate and up to secondary schools. As individual efforts, some schools have started using SMS as a tool of communication with parents and teachers in relation to their students. Other schools have established their own websites to serve and communicate with their students and their parents.

#### **2.4.1 Factors Supporting the Implementation of ICT in Kuwait**

The implementation of ICT in education is not only a matter of conducting training courses, opening computer labs, establishing networks or Internet access; it exceeds these issues to pursue an integrated supporting environment. Nawashi (2004, p. 239) claims that training teachers to support the learning and teaching process by using ICT will be ineffective unless ICT pervades the teachers' daily lives. The enormous revolution brought about by Information and Communication Technology has led societies to transform from the traditional systems of management to electronic systems. The governments of the Arabian Gulf countries realised the importance of ICT and started adopting plans to implement this technology in different environments related to the government and the people through electronic-government. The Kuwaiti government has started different ICT projects in different ministries since the beginning of this decade and the Ministers Council of Kuwait has declared in 2007 that e-mails will be considered as the official means of communication with people in the near future. For this purpose, each individual is required to provide the government with his/her e-mail address. This adoption of ICT in various governmental environments may be considered to be an important step and supporting factor of ICT implementation in education. In February 2007, the Ministry of Education signed an agreement with an international company in order to start a huge ICT educational project known as "The Connected Schools Project." This project aims to establish solid technical infrastructure throughout all government schools, which could enable and reinforce students' and teachers' productivity.

#### **2.4.2 Difficulties Facing ICT Implementation in Government Schools**

The exploratory part of this study shows that, although some progress in ICT implementation is taking place in Kuwait, many difficulties are still being faced in terms of plans and efforts related to ICT implementation in government secondary schools and deeper investigation is required to establish those barriers Zaied et al. (2007). It is to be expected that the policies and efforts of the Ministry of Education towards introducing ICT in education that have been adopted over the years and which are included in the new Educational Strategy would noticeably echo the practical field of education in government schools. Unfortunately, the gap between the policies and implementation of ICT in government schools is still huge, as can be observed on visits to government schools and upon examination of the syllabus of any subject, except Information Technology. The traditional methods of teaching that centre on the textbook and the white board are still dominant. In rare cases, teachers use traditional teaching aids such as overhead projectors, tape recorders or videos. The computer rooms are mainly used by teachers of the subject of Information Technology and are hardly used by teachers of other subjects. Official communication among schools and between schools and educational areas is still undertaken by traditional means such as telephones, fax and normal mail, although most administrators and teachers in government schools and educational areas have attended different training courses on the use of the Internet and e-mail. Of 59 boys' secondary schools, only three schools have started their own websites and of 58 girls' secondary schools, only 14 schools have their own websites. Although some of these websites contains very useful information and links, most of them are old and inactive (this link can be followed to evaluate secondary school websites. <http://www.MoE.edu.kw/pages/schools/page4.htm>).

Most teachers and administrators in government schools attend ICT training courses to support their CVs for promotions. During some informal interviews with some teachers in a few government secondary schools that the researcher has undertaken in the preparatory stage of this study, some interviewees claim that the training courses are useless because of the lack of ICT implementation in the curriculum of each subject. The syllabus is textbook-centred and the teachers' textbook guide does not explain how to implement ICT for any specific lesson. Some interviewed teachers add that mentors from the Ministry of Education were neither experienced in new technology nor encouraged to support in-class ICT implementation and rarely ask teachers to go beyond the official syllabus plan from the MoE. Teachers who try to use ICT may face a time factor limitation, as they have to cover not only the original syllabus plan, but also devote a period for using ICT. Some interviewees think that there is contradiction between the Administration of Development and Growing, that designs the ICT training courses, and the Administration of Curriculum, which designs curricula, that needs to be solved and harmonised. The Administration of Curriculum has to include the usage of ICT as one of the elements of the syllabus plan. In addition, it has to include a teachers' guide with the information necessary to implement ICT in lessons. Furthermore, some Kuwaiti teachers assert that teachers' training institutions in Kuwait, such as the College of Education in Kuwait University and the College of Basic Education in the Public Authority of Applied Education and Training, do not include adequate ICT training in their Teachers' Training Programmes. Those programmes only contain one or two obsolete subjects that provide very basic information related to technology implementation in education.



## **2.5 Summary**

From the description above related to the educational system in Kuwait, it can be observed that an increasing interest in ICT implementation is arising in the country in general and in education in particular. Introducing ICT into schools in Kuwait is now a governmental commitment, which is intended to improve and develop the current educational system in order to support Kuwait's position among other developed nations. However, various barriers are slowing the momentum of ICT implementation and need to be investigated in order to support the government and the MoE to achieve this strategic aim. The next chapter will focus on the literature review regarding the history of ICT, ICT in the Arab world and different studies related to factors that influence ICT implementation in secondary schools.

# **Chapter Three**

## **Literature Review**

## **Introduction:**

Many Kuwaiti educators asserted that ICT should be developed and implemented in Kuwait to prepare the country to take part in international technology enhancements and that technology should be incorporated as a compulsory subject in Kuwaiti Education. (Alfureih et al., 1996; Albannai, 1997). Although these studies recommending the implementation of technology in education were carried out back in 1996 and 1997, students and teachers are still not implementing ICT in their learning and teaching processes. This chapter will mark out and discuss literature related to the history of ICT and influential factors on and barriers to ICT implementation in secondary schools, including teachers' views and readiness, educational policies, socio-political factors and other related ICT implementation requirements. The chapter is separated into two sections; the first section is about contextualising the study in order to clarify the theory underpinning it and the second covers pertinent literature tackling the relevant issues related to the research questions. These two main sections will, I hope, help to draw and illustrate the theoretical framework and methodology of the study in the following chapter. As this study is a sociocultural research, the aim of the first part of this chapter is to contextualise the study according to the sociocultural situation in relation to previous related literature.

### **3.1 Contextualising the Study:**

This study considers sociocultural theory as the guide of its theoretical framework in order to investigate barriers to ICT implementation in government secondary schools in Kuwait by providing noteworthy insights into teachers' views and readiness, educational policies, socio-political factors, and different ICT implementation requirements. As such, knowledge intended to be collected and analysed from students, teachers,

educators and other experts related to the educational environment in Kuwait, are investigated through different communication tools and data collection instruments. This facilitates exploration of participants' ideas, feelings, perceptions and experiences, which could help interpret the situation and consequently answer the study's questions. Nonetheless, synthesising a deep understanding and a good interpretation of the situation behind this enquiry will not be dependable without being aware of the culture and the social circumstances in which this information and knowledge is situated. Understanding the whole context of the situation will be a benefit that will assist in having a clearer picture and a deeper understanding of the situation and will support the analysis of the information gathered from participants in the study. The researcher should be able to situate the information gathered in its relevant sociocultural context and this can be better achieved if the researcher is a part of the culture. This is the case in this study as the researcher is part of the culture and social environment, due to his experience as an English language teacher in different secondary schools and other educational institutions in Kuwait over a long period. Sociocultural theory affirms that, to understand the human mind and actions, you need to understand the environment from which they have emerged Murphy and Ivinson (2003).

Kuwait is a good case study as it is among the leading Arabian and GCC countries interested in developing ICT implementation in various areas, both in government and the Private Sector, including using technology in schools and educational institutions (AHDR, 2003; ESCWA, 2005; ESCWA, 2009). Studying ICT implementation in the Kuwaiti context during this period, where use of technology has spread massively in many countries, including developing ones, could add important insights and develop our understanding of the conditions for ICT implementation in education. In the Western context, ICT implementation in education took some time as it naturally comes

at a later stage than ICT development, which, itself, takes a long time to be introduced into the community. However, in the Kuwaiti context, the government has become interested in introducing ICT implementation into schools at a time when many basic ICT requirements had already been developed and implemented in a number of countries, both developed and developing, in different areas within government and in the Private Sector. In addition, in the Western context, the momentum of the spread of ICT implementation among individuals in society is accelerating faster during this decade than it did twenty years ago. Studying ICT implementation in Kuwaiti government secondary schools, within the context of the recent national and global development of different ICT aspects, could contribute to providing us with deeper insights and a better understanding of the potential for implementation of new technologies in our secondary schools.

This research is underpin by Sociocultural theory as it tries to understand a certain cultural issue that is related to teachers, students, parents, educators, politics and other related contexts. According to Vygotsky (1978), the interaction among those different related individuals in many different related contexts plays a fundamental role in the cognitive development process. Vygotsky saw cognitive development as socially located and based on the social context of the learning process. One of the important aspects in Vygotsky's view is the role of language as a tool for constructing, transmitting, negotiating and representing knowledge. He also asserted that we can have knowledge from anyone who may have a better understanding about the matter of study during the learning process. The sociocultural theory affected this research as it tries to interpret barriers of ICT implementation in secondary schools through exploring and investigating knowledge from many related individuals, such as students, teachers and

key educators in many related contexts in the community such as schools, MoE, National Assembly and other different related private and government parties.

Sociocultural theory goes beyond recognition of the problem and looks more deeply into the situation by considering how people feel about the problem and how they consequently respond to it. According to Murphy and Ivinson (2003), thinking cannot be understood independently of peoples' feelings towards any situation and their responses to it. The researcher needs to be aware of different layers of culture in the society in which the research is taking place in order to understand and interpret human thinking and the different circumstances related to the investigated phenomena. Therefore, this study not only investigates the cognitive part of the problem but also goes deeper by exploring how participants feel and affectively respond to the situation.

Aspects of sociocultural theory drive this research in many ways. First of all the interaction aspect of sociocultural theory influences this research as it investigates the problem through different players, contexts and complex variables related to ICT implementation. This research addresses a social phenomenon where the integration of many factors, in addition to the role of many participants, is crucial for successful ICT implementation (Dillon & Ahlberg, 2006). ICT implementation is not standing in isolation from contexts surrounding it but interacting with many sociocultural layers and related circles around it. ICT context interacts with the educational process in general including MoE and school policy, teachers' preparation and training and teachers' belief towards ICT. The educational process in turn is influenced by the government policy which is affected by different economic, political and sociocultural factors.

Another aspect of the sociocultural theory influencing this research is the one stating that human mind needs mediating tools to communicate and create relationships with

others and to express and reveal itself (Lantolf, 2000). These communication tools fluctuate according to the situation in which they exist and include signs, symbols, numbers and language. These tools are transferred from one generation to another and each generation modifies and develops them to fit their cultural needs. According to Murphy and Ivinson (2003), sociocultural theory asserts that, to understand the human mind and related actions, you need to understand these mediating tools. In other words, you need to understand the environment from which these tools have emerged and the social and historical surroundings. In addition, you need to be aware of internal aspects, such as different layers of culture and individual knowledge. In sociocultural theory, the emphasis is on semiotic mediation, such as speech, which provides a very helpful amount of data that can be employed for research purposes (Daniels, 2004). In this research using the mediating tool of language, in addition to other tools, through documents, questionnaires and interviews, helps to provide us with a better understanding of the researched problem. Adoption of the sociocultural as the theoretical frame work provides very important insight into teachers' views about ICT implementation in secondary schools through language and other tools that reveal teachers views, feelings, perceptions, ideas and experiences. Without such mediation tools I will never have an access to the knowledge teachers and other participants have about ICT implementation. At the same time, it is very important to situate this knowledge in its broader context in order to have a deep understanding of the researched situation. Understanding and interpreting teachers' and other hey participants' knowledge and thoughts and situating them in the suitable sociocultural context is depending on the researcher's situation from the culture to which participants belong. This may considered as strength for this research as the researcher is from the

same cultural context of the study and spent very long period studying, teaching and observing the situation from different positions.

In addition, sociocultural theory is found ideal for this research as it is not searching a pure cognitive matter but investigating deeper into people feelings and thoughts. An important aspect of the sociocultural theory is that it looks beyond cognition and take in consideration peoples' feelings about the situation and how they interact and respond to it. This is very important in this research since it encourages teachers to express how they feel about the situation and this includes affective response as well as cognitive response. Thinking about any investigated issue cannot be understood and interpreted independently of peoples' feelings to any situation and their responses to it (Murphy & Ivinson 2003).

Another dimension of the sociocultural theory that has impact on this research is the one related to belief and practice and their strong relation to culture. This research is mainly investigating barriers of ICT implementation in secondary schools and as it investigates difficulties hindering practice of ICT, it also investigates teachers' views and beliefs about ICT. This investigation cannot be performed in isolation from its cultural context. According to Mansour (2009, p. 32), *"teachers' beliefs and practices cannot be examined out of context but are always situated in a physical setting in which constraints, opportunities or external influences may derive from sources at various levels, such as the individual classroom, the school, the principal, the community, or curriculum"*. This research will investigate teachers' views and beliefs regarding practice of ICT implementation. Those views are formed as a result of different sociocultural factors around them such as community back ground, teachers' preparation, educational policies and school readiness. Investigation teachers' views and ideas and teachers' practice of ICT within the contexts



in which they are situated will help to have a better understanding and a deeper interpretation of the researched issue.

The school environment has many different but related internal entities like students, teachers, mentors, parents, infrastructure, curriculum, finance, technical support, educational policies and many others which continuously communicate, interact and influence each other during the development and change process in the school. Adopting the sociocultural theory that consider cultural background of teachers in addition to their views, experiences and expectation is a crucial aspect as teachers' values, views, perceptions and knowledge are a result of their daily interaction with their surrounding environments. Additionally, school environment is interacting and is influenced by different external related factors and entities, such as educational areas, MoE, surrounding environments, other schools, local and regional social, cultural, economic and political situations. Therefore, it is not possible to understand and interpret the factors influencing ICT implementation in government secondary schools outside the context in which they are taking place. To achieve the objectives of this research I must understand how teachers and other participants are interacting with their environment and how they construct meaning out of their interaction with each other. In addition I must take all these factors into consideration when selecting and designing data collection tools.

The sociocultural theory also drives the selection process of the study's sample and the data collection tools. According to the targeted sample of the study, and its relationship with the culture surrounding ICT implementation in Kuwait, the data gathering instruments are decided on and designed. For some participants in the study, the questionnaire is useful, while interviews or the questionnaire AND interviews are found to be more useful for other participants. Some other important information is collected

through documentary research and more deeply investigated through questionnaires and interviews. The questionnaire used to collect information from students in the pilot study is found to be useful in obtaining direct and basic information about the current personal and educational implementation of ICT. The semi-structured interviews with some students and teachers helped to complete the picture about specific research areas with the main participants by researching the society and culture. Similarly, questionnaires and open interviews with teachers and key educators in various locations within the sociocultural environment of the research area are found to be useful in gaining deeper interpretations and led to a better understanding of the situation.

Considering interpretation in sociocultural theory as the theoretical framework of this study will be a valuable tool in investigating teachers' and educators' knowledge, beliefs, perceptions and interpretation with regard to different barriers to ICT implementation in Kuwaiti government secondary schools. ICT implementation in education is not a simple change that can be achieved with limited resources but a change that involves many different educational, social and political bodies. The educational environment in schools is run by different players, such as teachers, students, mentors, decision-makers, the curriculum, regulations, finance, policy and different related factors that act and interact with each other to form a continuous development within the educational environment. In addition, different external factors and entities, such as other government and civil organisations, other educational institutions, socio-economic and political factors influence the educational environment in schools. All these internal and external factors and players interact with each other and, consequently, have an effect on different school activities, including the process of ICT implementation.

In conclusion, barriers to ICT implementation in government secondary schools in Kuwait will not be analysed or interpreted in isolation from the context in which they are taking place. Teachers' and students' readiness to use ICT will not be explored and understood without knowing the environment in which they occur. Similarly, teachers' beliefs and other psychological issues will be better interpreted when we discover and analyse the surrounding social and cultural factors from which they emerged. Constraints on ICT implementation and the socio-political factors and requirements for better ICT implementation also cannot be explored and understood without investigating them within their comprehensive contexts. The researcher needs to look at this educational situation through the different components, which construct its meaning through the interaction of different social, political and pedagogical elements. The educational environment in Kuwaiti government secondary schools and the barriers to ICT implementation in these schools cannot be understood and interpreted without being aware of their basis and their underpinning foundations and influential surrounding factors.

### **3.2 Review of ICT Implementation in Education:**

As this research aims to investigate barriers to ICT implementation in secondary schools in Kuwait, it was essential to review the related global and national literature to be equipped with information on the previous studies in this area. The review of the literature has led to continuous refining and development of the research sub-questions, as issues like national context, whole school perspective and individual viewpoints, which need to be addressed when investigating the extent of ICT implementation, arose (Tearle, 2004). There have been many studies demonstrating the difficulties facing the implementation and embodiment of computers and ICT in the school setting (Stevenson, 1997; Selwyn, 1999; Abdelhameed & Alsayyed, 2004; Zaid et al. 2007). On the other hand, most of these studies and reports claim that effective use of ICT across the curriculum is increasing and that a positive effect of ICT on pupils' attainment is demonstrated (Ofsted, 2001; Becta, 2004).

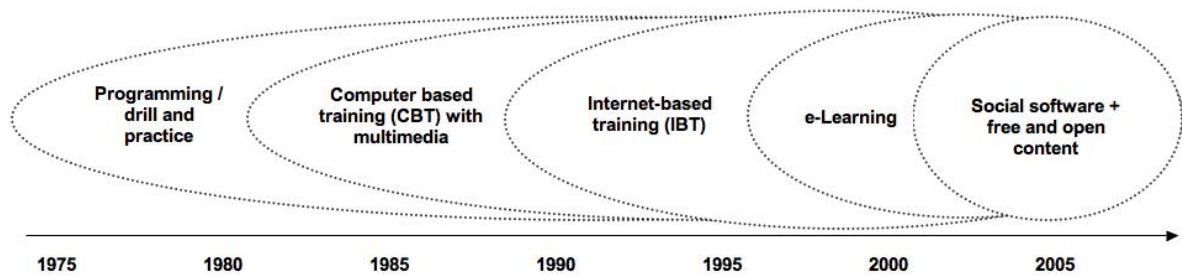
Many researchers claim that successful implementation of ICT is subject to the various sociocultural, technical, pedagogical and educational factors (Matthew et al., 2002; Abdelhameed & Alsayyed, 2004; Becta, 2004). The integration of these factors, in addition to continuous monitoring and evaluation, is crucial for ICT implementation (Dillon & Ahlberg, 2006). Teachers' and educators' beliefs in and attitudes towards ICT implementation, in addition to their experience and continuous training, play a major role in their behaviour (Ajzen & Fishbein, 1980; Al Othman, 2003; Abdelhameed & Alsayyed, 2004).

#### **3.2.1 History of ICT in Education:**

ICT's relationship with education and English language learning and teaching is not a recent relationship purely associated with computers and other new technologies. Old

inventions, such as paper, pencil, ink pen and ballpoint pen, and later, newer technologies, such as radio and television, have a long history as instructional and educational tools. Radio and television, for example, have been used for open and distance learning for over forty years by different educational institutions in the UK and the USA. The newer forms of media, such as cassette players, videos, computers, the internet etc. have worked together with the older forms to offer a variety of technological instruments used in education (Cuban, 1986; Collins & Halverson, 2009). Collins and Halverson (2009, p. 8) summarised the historical development of education into two major transformation moves. The first moved education from an apprenticeship-based system to a school-based system, precipitated by the industrial revolution. They claimed that schools are now going through a social revolution, which is leading to a knowledge revolution, bringing about the second transformation in education towards "lifelong learning", which is forming the new educational era around us. Collins and Halverson asserted that our current schools, teachers and education policymakers should not alienate themselves from this newly formed technology-driven learning system. The practical use of Computer Assisted Learning (CAL) and some related educational software, such as Papert's LOGO, for logic, mathematics and thinking skills, has been present in UK schools for more than thirty years. Many reports asserted that different governments, in developed and developing countries, have adopted significant initiatives to equip schools with computers since the early 1980s. This has been developed into open learning by the use of new methods of telecommunications and the Web developments of the early 2000s, whereby educational officials in the UK refer to "moving schools into an Information Age" (Watson, 2001, p. 252).

Leinonen (2006) wondered why the impact of technology on the way we learn is so marginal in spite of the huge spending to develop educational computer implementation. According to her the only proof-of-concept cases of using computers in the school and university environments for learning, are the small-scale experiments with CSCL (Computer-Supported Collaborative Learning) tools, such as the classical CSILE (Computer-Supported Collaborative International Learning Environment), Belvedere and later the experiments made with web-based social software tools, such as Fle3 and blogs. She has identified five major phases in the history of using computers in education in the UK, the US, Finland and some other developed countries.



**Figure 4: History of ICT in Education. (cited from Leinonen, 2006)**

During the late 1970s and early 1980s, the introduction of microcomputers became more affordable for schools. Simple drill and practice exercises for mathematics and language learning software were introduced. The late 1980s and early 1990s was considered as the golden era, according to Leinonen (2006) in Fig.4 above. CD-ROMs, multimedia and computer aided instructions were introduced as drill and practice exercises failed to interact with the students and teach them effectively. With the rapid change in the information, updating of CD-ROMs was difficult and, according to Leinonen, this led to what she calls the third wave of using computers in education that came with the introduction of the World Wide Web (WWW), where various website and E-learning industries were established. It is worth mentioning that many other

factors played a role in preparing for the introduction of the WWW in education and not only the limitations of CD-ROMs. There were also more open-ended constructionist environments, which were not Computer-Based Training (CBT) and the beginning of CSCL. The markets for E-learning courses and especially for Learning Management Systems (LMS) were created. Furthermore, sharing of ideas through free and open content like CSCL was developed, which would make a real step forward in the technological field of education, where CSCL and the dialogic perspective are argued to be useful in clarifying the relationship between ICT and teaching (Papert, 1993; Wegerif, 2005).

The use of computers and the internet has grown rapidly worldwide and the major users of these technologies are the young, who are considered as being capable of using Information Communication Technology (ICT) in diverse and novel ways. However, the youth of today live in a world characterised by cultural, economic, social and educational differences. The majority of the youth live in developing areas which are deprived of basic technological infrastructure, while the use of ICT is developing enormously. ICT is presented, in some literature, as a tool that can transform the lives of the individual and unify and standardise the culture. This helps youths living in a complex and diverse cultural environment to improve their living standards and develop their own identities, through the development of their professional competencies, which in return helps to increase their chances for employment (Ahmed, 2007).

Ahmed (2007), in her paper on 'Youth and ICT as Agent Change', considers the young as the people who would shape Society and she defined 'youth' as those who were within the age group of 15 to 25 years old. To substantiate the importance and significance of youth, she provided important demographic data. For instance, youth constituted around 50% of the world's population and, of that 50%, around 85% of them

resided in developing countries. Further regional disparities of youth and their living habits were taken into consideration. Links between youth and poverty and unemployment were also brought out. She claimed that youth were considered as participants, actors, promoters, influencers and, in some cases, leaders of ICT-led development in certain areas.

Education plays an important role in the development of the economy of any nation and the level of education is the key ingredient for the development of any country around the globe. Nowadays, ICT is considered as the major driving force behind globalised and knowledge-based societies of the New World Era. Furthermore, ICT is believed to give power to teachers and learners, promote change and encourage the development of 21<sup>st</sup> century skills. As Tony Blair has argued, according to Gipson (2003):

*Technology has revolutionised the way we work and is now set to transform education. Children cannot be effective in tomorrow's world if they are trained in yesterday's skills. Nor should teachers be denied the tools that other professionals take for granted.*

Turner (2004) claimed that Hawkrige (1991) had identified four basic rationales as to why schools are using computers: The *social rationale* proposes that computers are part of society and thus students need to understand how they work and what they can and cannot do. The *vocational rationale* says that learning to use computers is important because it enhances employment opportunities. The *pedagogic rationale* presumes that computers can improve teaching and learning, while the *catalytic rationale* supposes computers as catalysts to enable desired change to take place in schools.

From a narrower perspective, ICT provides opportunities for English language learners to work collaboratively with other first language speakers, which provides chances of



developing speaking, writing and other communication skills. E-mail encourages learners to work independently and empowers them to learn autonomously (Warschauer, 1995). Research illustrates that the use of authentic materials through Internet-based English language teaching is bridging the gap between the classroom and the outside world (Wong et al., 1995, p. 219). The literature review reveals a huge amount of educational material addressing the potential ICT has in the field of education. Many books are prepared to guide interested teachers to use ICT in their lessons and to provide collections of activities for classroom use (Dudeny, 2000). Literature around the globe shows the various pedagogical potentials of ICT implementation and provides a good understanding about the supporting and hindering factors facing technology implementation in many educational environments.

The most crucial issue is the teachers' ability to prepare and control the task (Walker, 2003), in addition to the task's authenticity, meaningfulness and practicality (Chapelle, 2001). Walker (2003, p. 220) claims that the Computer Mediated Communication (CMC) programme could be beneficial if important factors, such as tutor presence and pre-planning of the task, were taken in consideration. Besides, we have to be aware that teachers always work within limited allocation of time and resources. Hubbard and Levy, (2006: 8), claim that,

*“language teachers and learners operate within a set of interrelated constraints. These constraints, often associated with the limited time and resources available to the teacher and the student, typically include the number of contact hours pre-determined for a course, lesson times and durations, technical support, ancillary learning materials, and so on”.*

Nonetheless, the view of ICT implementation in education is still a controversial issue in that some researchers and educators have critical views about the way technologies are introduced and implemented into schools. Cuban (2001) has written a very interesting book about how technologies were oversold to schools while teachers' implementation, even in very developed and technological environments, is still very limited. He argued that, technological innovations should take the routines and organisation of schools into account. The rapid changes that are taking place in many schools in relation to ICT implementation are misdirected in some educational environments. In some schools, the management, especially in a number of developing countries, focuses on the appearance of the new technology in the school and classrooms rather than the real, guided, useful implementation of the new technologies. Watson (2001, p. 264) argued, "*too much attention is focussed on the actuality of the new rather than their function and implications, on the development of the lower-order skills rather than the higher-order learning*". This could have limited the educational potential of the technology and may have directed efforts of ICT implementation into erroneous areas.

### **3.2.2 ICT in the Arab World and Kuwait**

The massive information technology revolution in the developed and developing countries, and the benefits associated with it in various aspects of people's lives, has compelled the majority of Arab countries to start thinking seriously about alterations in their own government educational systems to cope with this transformation. With the advent of the different information technology tools, some Arab researchers argue that there is a need to motivate students to embrace understanding and employing ICT for their learning needs. ICT is a key success factor for the future development of the economy, cultural communications and other aspects of people's lives, including learning and teaching processes. Furthermore, ICT acts as a catalyst for change from the teacher-centred approach to a more learner-centred approach and helps to shift the paradigm of both content and pedagogy (Sa'aada & Sartawi, 2003, p. 23; Abdelhameed & Alsayyed, 2004).

Many developing countries have started adopting technology in their education systems. In recent years, several Arab countries have shown some progress, both in terms of technological development and policy formulation, to accommodate the rapid change in new technology into their systems. Sa'aada and Sartawi (2003) argued that Kuwait, Jordan and the United Arab Emirates are the first three Arab countries that have tried using the internet for higher education in their universities. Some other Arab world countries have started various projects to make use of ICT in their schools' public education system. For example, the Kingdom of Saudi Arabia has started a huge Internet and Information Technology project, called the Prince Abdullah Bin Abdulaziz Project since 2000. The aim of this project is to provide all schools and institutions in the Kingdom with Information Technology and Internet facilities. The project is being implemented in phases in different places in the country, according to a scheduled plan.

Keeping in mind the Saudi culture and customs, internet content is monitored through filters and software in the main servers and only content appropriate to the culture of the land is allowed to be accessed. Large teams of educators and university experts have worked on this huge project to promulgate this service among the Kingdom's schools and institutions over a five-year period. From the researcher's perspective, very good progress has been made in the ICT environment in the Kingdom of Saudi Arabia after government adoption of this project. Similar projects were adopted in other Arab world countries, including Kuwait. In spite of the progress in the ICT environment in many Arab world countries, many announced objectives in such projects are being postponed or cancelled due to planning and decision-making weaknesses. Politicians and educational officials supervising and working in ICT projects in the Arab world, and in other places, are usually very enthusiastic and make optimistic promises about ICT implementation. They hope to make huge changes in such an important innovation but, unfortunately, they never achieve what they have announced on time as they work using short-term plans while ICT implementation is a cultural matter, which needs a very long period of time to be part of people's lives (Cuban, 2001).

The United Arab Emirates is viewing the scope and benefits of Information Technology and the internet with increasing interest. The government of Dubai is working towards providing internet services to all government sectors to achieve the 'Electronic Government' status. On the educational side, some private schools, such as Al Sharqa Model School and Al Ain Model School, have adopted a few internet development programmes. The Emirates educators and citizens have started looking to Information Technology and the use of the internet in education with greater attention. The United Nations E-government Report (2005) showed that the United Arab Emirates has

developed its performance to be ranked in position 42 among 191 countries around the world.

Governments across the Arab world have been impressed by the evolution of Information Technology in every aspect of people's daily lives. Thus, many of these governments have decided to reduce the traditional approach to bureaucracy and improve citizen services by adopting policies towards transforming their societies into 'Digital Communities', where a majority of citizens transact online. The governments' increasing interest in adopting new technology in the Arab countries is spreading to all fields of citizens' daily lives: health, security, education and other governmental services. Zaid et al. (2007, p. 77) stated that there were seven challenges for e-Government development and implementation in developing countries. Those challenges are ICT *"infrastructure, policy issues, human capital development, change management strategy, leadership roles, partnership and collaboration"*.

This study focuses on the governments' role in introducing new technology into the education sector and the progress that Ministries of Education in different Arab countries have achieved in this direction. Abdelhameed and Alsayyed (2004), in their study 'Electronic Government: Between Theory and Implementation', claim that decision-makers in the Arab world have to realise that this technology has changed the philosophy of education. The change has included educational aims, the curriculum, teaching methods and educational management. They argue that educational systems have to prepare themselves to comply with these new technologies and to learn how to use them effectively. Abdelhameed and Alsayyed propose the following practical steps in order to implement ICT in education:

- Getting the essential political support from the government

- Providing people with the information required about the importance of ICT and its role in our daily lives and the importance of learning how to deal with this new technology
- The cooperation between public and private sectors to build the infrastructure of the Information Technology Community
- Providing people, especially in the education field, with intensive, wide-ranging training courses about ICT
- Providing electronic government with the required manpower of technicians and specialised experts
- Changing all inadequate rules and regulations
- Providing the required instruments and equipment, hardware and software
- Establishing specialised management to guide and support electronic government and ICT implementation
- Providing continuous services, training and technical support for students, parents and teachers

And finally,

- Maintaining a continuous evaluation of performance for all related sectors

Although some Arab countries are trying to import information and communication technology into their educational systems, the majority of Arab countries are still facing many difficulties in trying to implement the IT revolution. Sa'aada and Sartawi (2003) argue that ICT educational implementation in Arab world remains very limited when

compared with developed countries or even some of the developing countries although of the increasing use of the Internet in the Arab countries. They offer several reasons for the slow growth of the internet in the Arab world. Major reasons are given in the next few lines:

- The unconsciousness of the importance of internet and the traditional fear of the internet's disadvantages,
- The low income of individuals in most of the Arab countries,
- The slow movement of communications and the education sector privatisation,
- Bureaucratic and centralised decision-making,
- The weak relationships among information centres in these countries and the lack of national training programmes in the Arab countries.

(Adapted from Sa'aada & Sartawi 2003)

The AHDR (Arab Human Development Second Report, 2003), published by the United Nations Development Programme, reported that Arab countries need to radically improve the quality of all levels of education. In addition, it illustrated that, in higher education, improving quality requires subjecting all programmes to independent and periodical evaluation. To achieve this, the Report calls for the establishment of an independent Arab organisation for the accreditation of all higher education programmes. According to the report, the communication infrastructure in the Arab world is also inadequate, except in the United Arab Emirates, Kuwait and Jordan. The number of telephone lines in Arab countries is only about one-fifth of that in developed countries. Access to digital media is also among the lowest in the world. There are just 18

computers per 1,000 people in the region, compared to the global average of 78.3 computers per 1,000 persons, and only 1.6 per cent of the Arab population has internet access, as compared with 68 per cent in the UK and 79 per cent in the US. At the national level, the Report says, action to popularise ICT as a tool for knowledge acquisition should focus on boosting literacy, especially among women. It should also concentrate on lowering monopolistic barriers for internet providers and telecommunications developers, lowering other internet access costs, overcoming restrictions on ICT access by gender, economic capability, geographic location or social conditions and using ICT as a tool for life-long education.

Dutta and Coury (2004) investigated the readiness and difficulties facing Gulf Cooperation Council (GCC) countries in using ICT and recommended some suggestions of how to overcome these difficulties. The awareness of ICT in the Arab world countries varies according to their strategic plans and we can observe different levels of implementation of ICT. The World Trade Organisation (WTO) provided Arab world countries with a chance to customise their legal and regulatory systems for accommodating trademark, patent and intellectual property rights (IPR) protection.

Arab States are interesting in technology initiatives and all these countries have started a national planning process for the technology-building initiatives. However, the degree of success and progress of these planning processes is varied among the Arab world countries due to different socio-political and financial reasons. Even though there is a gradual improvement in the field of ICT on one side, there are some obstacles on the other side. Dutta and Coury concluded that obstacles affecting the uptake of ICT implementation in Arab states were obstacles like dictatorial issues, weak ICT strategies, shortages and unwarranted dependence on foreign technology. These obstacles will make the Arab countries rely, for their readiness, on the worldwide



networked opportunities and will limit their ability to establish an independent Arabic foundation for ICT implementation. Suggestions to overcome these obstacles to ICT implementation in the Arab world, according to Dutta and Coury, could be summarised as: *Creating a common Arab ICT strategy aligned with national ambitions, proceeding towards technological sovereignty, increasing the competitiveness of the telecommunications industry, recognizing, attracting, and building human capital, reducing the digital divide, and finally stimulating Arabic content.* Due to some socio-political and financial differences between Arab world countries, it could be difficult to create a common Arab ICT strategy; however, coordination and collaboration are very crucial factors that need to be developed between Arab world countries.

Literature addressing ICT implementation in Kuwait is very limited and almost entirely focuses on ICT implementation in higher education, not in secondary schools. Buarki (2010, p. 69) asserted that ICT literature in Kuwait is very limited and that "*ICT skills application and factors affecting it were not treated as a topic pertaining to Kuwait and there was no literature as such found*". Although ICT implementation is still very limited in education and schools, the personal use of the computers, the internet and other ICT innovations has recently become increasingly observable in Kuwaiti society. During the last few years, a large number of Internet Cafes have been established and became a worthwhile kind of business that attracts an increasing number of young customers. Wheeler (2003, p. 3) pointed out that "*young people in Kuwait constitute both the highest concentration of Internet users (estimated to be approximately 63% of all Internet users in Kuwait) and the largest sector of Kuwaiti society*". This fact may encourage researchers and teachers to take advantage of this increasing number of young internet users. The issue of not using the internet for educational purposes and for

English language teaching in Kuwait seems to be related to educational institutions and teachers, more than it is related to students. Al Othman, (2003) claimed that,

*Educators and officials in Kuwait, as well as in many other countries with educational systems that use conservative, old-school teaching and learning methods or strategies that emphasize teacher-cantered classrooms, must take the move, immediately, to integrate CALL or CAL, in general, in their classrooms. This will help officials change the educational systems to suitable ones that can survive the current universal change.*

Nevertheless, implementing ICT in an educational system is not an easy task and requires a collaborative effort from all related parties. Al Bustan (2005, p. 10), claimed that,

*If we want ICT programmes to be successful in Kuwait, it is necessary to put time, resources and research into student learning with technology and include the provision of professional development opportunities related to technology for maximum benefit to occur to learners.*

She asserted that there is a real need for training and support, which goes beyond short workshop schemes. The researcher strongly agrees with Al Bustan about her claim of putting time and research under consideration to help successful ICT implementation in Kuwait. Those very crucial factors seems to be under-estimated as the decision-makers in the Ministry of Education are neglecting educational research and are known to miss their announced deadlines for executing educational projects, due to lack of evidence-based studies and improper planning. The Ministry of Education in Kuwait claims that it is adopting a clear policy and devising reachable strategic plans for ICT implementation

(Alwatan, 2010, p. 2). Although the MoE has behind it the generally supportive atmosphere of government policy and the community's desire to cope with information and communication technology in different levels of their daily lives, it still faces numerous difficulties that have forced it to postpone many ICT projects several times, since 2003. In the field of education, Kuwait is very keen on introducing ICT and steps are being taken in this direction by trying to introduce technology into schools and colleges. Projects are underway to maximise the use of PCs in classrooms and some schools are being used as pilot sites for E-learning projects.

Kuwait is counted as one of the more advanced Gulf Countries that are moving towards modernisation. According to the Economic and Social Commission for Western Asia (ESCWA) report (2009), part of this modernisation is the development in the country's ICT. Although the population of Kuwait in 2005 was about 2.75 million, it had about 590,000 internet users (about 21%), 490,000 landline connections and about 2.1 million mobile users (77%), according to ESCWA (2005). As Kuwait is a developing and growing country attracting many people to go for work, the population has increased to around 3.4 million since 2007 according to the Authority of Civil Information in Kuwait. The ESCWA report (2009, p. 9) showed that number of internet users had increased greatly, to about 900,000 users since the 2005 report, which is equivalent to 34.7 per cent of the total population. The Kuwaiti government is allocating a substantial budget for ICT projects; for example, in consultation with Microsoft, the Government is investing close to US\$450 million to make all its basic public services available online. The Ministry of Health is making efforts to establish a central database for efficient data management of patients. Kuwait has adopted E-Mirsal, a complete shipping and customs solution that allows submission and processing of customs documents and payments, over a secure internet connection, around the clock. In the banking sector,

many local banks offer secure online Internet Banking facilities (20% of all accounts are accessed via Internet Banking). It is estimated that the total value of the E-commerce market in Kuwait was about \$5.35 billion, as of 2003.

Some other positive steps taken for the development of ICT in Kuwait include the passing of the State's Copyright Law in 1999, granting of permission for a third mobile operator and reduction of the government share in equity of MTC (now Zain) to 25% - all of this indicating the government's intention for privatisation.

Despite these many positive steps taken for the development of ICT in Kuwait, there still lie many difficulties. Kuwait is still not a liberal economy, with the Government controlling entry by competition (for example, the telecommunications industry, where there are a very limited number of players currently and the consumers have very little choice). The Government, though, is aiming for the E-government project with only 36% of government departments having active websites, with 75% of them not having a proper feedback mechanism. The content availability on the government website is mostly in English, with very little in Arabic and very few site having both English and Arabic versions. As one of the biggest IT markets in the Gulf region, Kuwait mostly imports its IT requirements, with major companies mostly involved in consulting and support services.

The Governments of Kuwait and other Gulf countries have always struggled to improve their efficiency in using IT services in various government utilities providing public services. The internet has opened up various opportunities for the Governments to improve their services and to benefit from its potentials to save time, cost and effort for both governments and citizens. However, it seems that the Kuwaiti government's efforts towards transformation from a bureaucratic government to an E-government are

fluctuating and do not have the same momentum as other governments in the region, such as the United Arab Emirates, Qatar, Bahrain and Saudi Arabia. In 2001, a study conducted in the United States of America, in conjunction with Brown University, evaluated and ranked the governments of 196 countries for their ability to provide their services on the internet. According to the scale of that study, the State of Kuwait achieved a 28.7% score. Compared with other Arabian Gulf countries' governments, Internet Services in the State of Kuwait were ranked third, after Saudi Arabia and Oman. Compared with the highest score, achieved by the United States, the Kuwaiti Government had reached an above average level in providing its services to the public according to the website of Kuwait E-government. By contrast, the United Nation Global E-government Readiness Report (2005) showed that, although the Kuwaiti E-governance had progressed in 2005, the United Arab Emirates, Qatar and Bahrain had overtaken Kuwait in their E-government readiness. Among the world's 191 countries included in this report, the United Arab Emirates had improved its E-government services during 2005 and jumped from its old position of 60 to be ranked 42<sup>nd</sup>. Qatar's E-government had reached the position 62, while Kuwait ranked in position 75. The report, which based its evaluation on website assessment, telecommunications infrastructure and human resource endowment, noted that some governmental sites in Kuwaiti E-government were unavailable for some long periods during 2005, which affected its assessment.

### **Summary**

The literature review of the history of ICT implementation showed that computers and some other technologies have been introduced into schools for a long time and that trials in implementing technologies in education are on-going and even expanding. It also showed the historical development of ICT implementation in education since using ICT

applications such as drill and practice programmes and LOGO, through the World Wide Web and collaborative and dialogic ICT in the UK and the USA and some other European countries. It offered a deeper understanding of the different versions of ICT implementation in different areas of formal and informal learning, secondary and higher education, private and government schools. At the same time, reviewing global literature on ICT implementation revealed that the success of using technology in schools is still controversial. The literature review about ICT in the Arab world and Kuwait has revealed the digital gap between Arab world countries and developed countries is still huge. It has also shown that Kuwait, UAE and Jordan are heading the Arab world in internet introduction and implementation in their universities and educational systems. In addition, this review has proven that the majority of the Arab world countries have overcome the historical fear of the unacceptable impact of internet on youth and on Islamic principles and have started plans to include ICT in education. This includes the Kingdom of Saudi Arabia, as a project by King Abdulla was released in 2000 and the government is taking very good steps to develop ICT in universities and in its educational system in general. This review has also shown that most researchers are very enthusiastic about ICT implementation in education and are strongly encouraging Arab governments to bridge the digital gap between their countries and developed countries. The literature related to Information and Communication Technology and the use of technology in education in general, and in secondary schools in particular, in Kuwait and the Arabian Gulf region remains, to some extent, limited (Al Dhafeeri et al., 2006). The limited ICT implementation in educational environments in Kuwait and other GCC countries is facing different difficulties. Al Harbi (1998) claimed that the lack of clear aims, strategic plans, technical support, 'Arabisation' and financial support are considered as the main obstacles to ICT implementation in

management and education in the Arab countries. The use of the internet as a new technology is influenced by the social traditions of the Arabic society in general. However, with the recent speedy development of ICT around the world, including the Arab world, this area has lately started attracting an increasing number of researchers, due to the enormous role this new technology is playing in all aspects of our lives. Al-Saleh (2003) argues that this technology is participating in increasing the productivity of its users and facilitating work processes and needs to be implemented in education systems in the Arabian Gulf region. This part of the literature review helped to form a better understanding of some important research areas, such as strategies of ICT implementation in Arab world countries, transition of belief about technology and the readiness of the infrastructure for ICT in the Arab world countries and Kuwait.

### **3.2.3 Previous Studies Related to Research Areas**

In this part of the literature review, the researcher will shed light on different studies about the implementation of ICT in secondary schools, in different parts of the world, in order to look at the findings of these studies. In addition, this part of the literature review will look at the sociocultural impact in these studies in order to have an overall idea about the available literature on ICT implementation and the theoretical frameworks underpinning it.

#### **3.2.3.1 Requirements for ICT Implementation**

A number of research and educational projects have been executed in many different countries around the globe addressing the main requirements that are needed before and during any educational plan for implementing ICT in schools (Geser & Olesch, 2000; Cuban, 2001; Tearle, 2003; Abdelhameed & Alsayyed, 2004; Zaied et al. 2007). Those studies addressed main requirements for ICT implementation from different perspectives and in different places around the world. Those researches affirmed on the importance of adoption of clear and tangible ICT policy supported with financial ability. Similarly, those studies confirmed the importance of readiness of schools' infrastructure including ICT hardware, software, connectivity, training, technical support and curriculum development. They also asserted on the role of teachers' belief and the cultural impact on ICT implementation. Geser and Olesch (2000) undertook a three-year project on ICT implementation in six Austrian schools, investigating school curricula, internet literacy, networking, online resources, teacher training and other related ICT requirements. After conducting this project, the conclusion supports the efficiency of learning through ICT but also indicates the illusions about schools "going online".



On March 24<sup>th</sup> 2000, the European Council decided on a European route called “E-Europe” to accelerate the use of ICT in all aspects of life and to enable European citizens to understand the use of new media in a meaningful way and play an active role in the emerging society. The Austrian government implemented E-Austria accordingly and suggested an investment of 1 billion Austrian Shillings. They promoted a number of activities regarding learning on the internet, education of teachers, E-learning, adult training etc., in what was called “Computer Billion”. For this purpose, a steering committee was established to propose the best use of the budget for this project.

In order to proceed further they listed out some targets and described how they should be achieved. According to them, the first target indicated that all the schools should have access to Internet and Multimedia learning resources. In order to work towards this target, in 2000, internet connections were provided to schools and virtual learning resources were made available through nine educational servers and they created a platform leading to “Virtual Schools”. Furthermore, it specified that, by 2003, a few measures needed to be taken, which are as follows:

- The Austrian school network would be setup with its own intranet.
- All the federal schools’ bandwidth would be upgraded and they would be transformed as multimedia centres.
- There would be an extension of the educational servers and the data banks and learning resources would be digitised.
- There would be promotion of laptop implementation.
- There would be an expansion of a pilot project for web-based distance learning.

The second target stated that all the teachers should be individually equipped and skilled in the use of the Internet and Multimedia technology. For this purpose, in 2000, it was seen that 17,000 teachers had access to the internet through the Austrian School Network and the post-secondary colleges offered programmes like “Multimedia and Telecommunications” and “Informatics and Businesses”. By 2003, a few targets should have been achieved, which covered the survey on computer literacy and teacher training courses, with cooperation of universities and private companies.

The third target was the European Computer Driving Licence (ECDL) as a standard, an intensive expansion of specific ICT training and establishment of university training centres. In 1999, ECDL examinations were conducted and they formed the base qualification in computing skills. Other than this, companies like Microsoft and Cisco also offered certifications. Polytechnic colleges in Austria offered 13 ICT related courses. It was decided that, by 2003, there should be approximately 21,000 graduates, with at least 10,000 having specific competence. Computers knowledge should be made available for adult training. All these would give rise to more employment relating to people who were expert in IT skills.

The government conducted the project of implementing notebooks in schools and, after evaluating it, the following results were seen:

- The increase in learning efficiency is difficult to measure and the results were not very interesting.
- The focus group interviews made it clear that relatively little could be achieved in terms of efficiency.

- Some learning effects could be seen, such as teachers and pupils forming a peer-to-peer teaching network and social contacts emerging when projects included businesses or cultural institutions.

There were also some crucial points seen during this project, which are as follows:

- Implementation in schools needs a great deal of time and expectations in terms of using technologies seemed to be low.
- There should be attention given to the “gender-gap” in the usage of ICT, as boys dominate girls. This point seems to be no longer true in the majority of developed and developing countries, including countries that used to have a negative stand against girls.
- ICT projects need systematic management, both for technical and didactical issues.
- The schools have to go through a complex process of innovation, while the schools’ current traditional environment is difficult for ICT implementation.

This project claimed that ICT gives positive visions in our teaching and learning process, however, it revealed that the real practice of ICT implementation faces different types of difficulties. For instance, ICT implementation projects used to have huge budgets to help projects be successful, while in practice they do not get the required funding as the follow-up costs of ICT implementation in schools are spiralling. The pedagogy is affected too as the PCs take too much time to boot up and, if any PC is not working properly, the entire class is disturbed. All these problems were also seen during the implementation of ICT in other countries, where some studies claimed that

dealing with the school as a whole is a crucial issue for successful ICT implementation (Tearle, 2003). This study concluded that the problem is not about connecting online but about connecting the teachers' and schools' mind to the internet and technology.

Zaied et al., (2007) conducted a valuable paper assessing e-Readiness in the Arab countries. The main purpose of this study was to explore the e-Readiness assessment models and to investigate the perceptions towards the IT environment in some public organisations in Kuwait. The study argues that, despite the huge efforts by the public organisations in Kuwait in applying e-Services, the information environment within these organisations is not adequate in applying e-Government.

The study has used three main variables (human skills, infrastructure and connectivity) and the model of e-Readiness suggested by the Centre for International Development at Harvard University (2002). This model develops a 'five indicators' model for e-Readiness assessment: network access, networking learning, networked society, networked economy and network policy. The study sample was selected from 10 public organisations out of 20 organisations who stated that they have a plan for e-Government applications and have been applying those plans for more than 3 years. 25 questionnaires were distributed among employees in each selected organisation. This study showed that the information environment in these organisations in Kuwait is not yet adequate for applying e-Government, in spite of huge efforts and political promotion. The overall e-Readiness of the public organisations to apply e-Government is only 54%. Less than half (46.57%) of the participants agreed that their organisations have adequate and appropriate connectivity, infrastructure and human IT skills to implement the electronic government systems. 50% of the participants agreed that the backbone of network technologies and infrastructure connecting their organisations to the public network is ready for applying e-Government. Finally, the study showed that

development of a networked e-Government will need strengthened co-ordination and collaboration among organisations, with them paying more attention to qualifying their employees by raising the rate of e-Government training and enhancing network connectivity speed.

It is very important that the conclusion of these studies be presented to MoE decision-makers in Kuwait, as they plan to jump straight into projects such as "Connected Schools", "a laptop for each teacher and student in all secondary schools", "Smart Schools" etc. This is before carrying out the many preparatory phases of ICT implementation related to infrastructure, teachers' ICT literacy, connectivity and curriculum development. The stated requirements for ICT implementation in these studies, and similar research projects, need to be considered by MoE decision-makers before setting up and executing any ICT plans. Wisdom encourages us to learn from others' experiences rather than learning from our own mistakes. The MoE should revise its Strategic Plan for Education (SPE) to ensure that it is compatible with the ICT projects executed in various places around the world. This study, and similar studies, is a very useful reference that helps to draw guidelines for this research. They determine the most important areas related to ICT implementation in order to investigate their impacts on ICT implementation within the Kuwaiti educational context.

### 3.2.3.2 Teachers' Views in Using ICT

Teachers are the most important driving force in the ICT implementation process and they can support or depress the intention of governments to implement ICT in schools, depending on their attitudes, beliefs, enthusiasm and opinions towards in-class implementation of new technologies. Ajzen and Fishbein (1980) suggested that, in addition to attitude, subjective norms and control beliefs were important in the determination of behaviour. Gorghiu et al. (2006) undertook a research study for the University of Valahia in Romania to explore teachers' opinions on ICT implementation in classrooms. The overall aim of the project was to increase the quality of education using the latest technology. The project involved developing methods for integrating face-to-face and web based technologies and applying a design method for teaching in different IT-based environments (cooperative platforms, virtual reality environments and video conferencing).

In order to practice the ICT implementation, the researchers conducted the survey and collected the opinions of 51 in-service teachers involved in teaching activities in Dambovitza County. In the initial step of the analysis the “**FISTE** – A Future Way for In-Service Teacher Training Across Europe” conducted an online course entitled “Integrating ICT in Traditional Training”, which was taken by these teachers. The duration of this course was 42 hours, with initial and final web evaluation. This course not only included the methods for integrating face-to-face and web based learning tools, but also provided a “pedagogical toolkit”, which supports the teachers in practicing ICT in their profession. There were also other classroom technologies, which were based on technologies like screen recording, video editing, producing videos for web or other media, organising video conferences and virtual reality on-line meetings. At the end of

this course, the participants did a didactic project using these technologies in their particular area of teaching.

It has been observed that many teachers from upper secondary schools participated in this course and they gave their views about the pupils in relation to different subjects. The area of sciences was always very important but it can be seen that, in many countries, the interest of the students in mathematics and sciences is not developing as fast as it should be. In order to overcome this issue, the Romanian teachers, not only from secondary schools but also primary, were making a lot of effort to increase their knowledge and enhance their skills. In addition, language teachers were also interested in discovering new methods for communication with their students and colleagues. On completion of the course, and after doing all the questionnaires and making the evaluations, the results showed that many of the teachers considered the ICT tools as a very suitable way to improve sources of inspiration, effective learning contexts, the teaching means and the student learning style. According to them, it can also improve the quality of different aspects of classroom activities through student motivation, student cooperative work and teaching style. Teachers in this study believe that ICT plays an important role in developing the interests of the students in different subjects. It supports the learning environment, enhances the effectiveness of information presentation and stimulates students' learning interests through appropriate multimedia, especially graphics and animation. It is a good source of enjoyment, enthusiasm, motivation and professionalism for pupils. Learning foreign languages may be more interesting if the pupils are allowed to read about their favourite topics in that language on the internet. Even learning natural sciences may be more appealing if pupils are allowed to communicate and collaborate with pupils in other countries about the specific topics.

On the other hand, Gorghiu et al. (2006) asserted the existence of some obstacles encountered during the ICT implementation in the classrooms, like the cost of the computers and other related equipment, organising the students' activities, low awareness of the hardware and software resources and expensive technical support. In addition, E-mail was not strongly used as a medium of communication and there were some problems due to unequal access to the computers by students.

The study concluded that the classrooms are not ideal learning environment and obstacles are there even using traditional teaching methods and even though the teachers' answers showed positive beliefs towards the implementation of ICT. The potential of ICT in a learning environment is that it can support dialogue, enhance interactions and help students share and revise ideas. The overall aim of the project was to support the teachers' pedagogical use of ICT in their careers and provide them with new ideas, which affect teachers' beliefs and makes teaching more orientated towards an emphasis on social interaction using cooperation and collaboration at work. ICT should be integrated into our daily teaching and the school leaders should be quick to acknowledge the significance of ICT in learning. They will be hindered by some disturbances caused along the way but should try to find alternatives and workarounds for ICT improvement as we are quick to build technology infrastructure but slow in connecting it to aspects of the curriculum and school culture.

This study showed the importance of considering teachers' views towards ICT implementation before and during the process of preparing the educational environment for ICT implementation. It also asserted the importance of considering teachers' opinions during planning for any ICT projects, as teachers are the workforce of any educational project. It will be crucial in this research to explore English language



teachers' views and to survey their opinions about the factors influencing ICT implementation in government secondary schools. This research will also investigate whether teachers' opinions were considered during preparation of the Strategic Plan for Education (SPE) in 2002.

### **3.2.3.3 ICT Policy and Decision-making in Education**

The decision-making for ICT implementation in education is not as simple as building a reasonable infrastructure and providing required funding for school principals. It is an operation that involves different cultural, political and educational parties, such as teachers, students and parents. Hollingsworth (2005) tackled the problem of policies related to ICT implementation in education and evaluated the expected success of the July 2004 document from the Education and Manpower Bureau (EMB) of Hong Kong, *Empowering Learning and Teaching with Information Technology*. He compared the statements in this policy document to Sweden's ICT policy and a report completed by Peter Kearns for the Australian Government. He argued that, although the Hong Kong policies were ambitious, they would have many difficulties in achieving their goals.

Hollingsworth reported that Kearns' report had discussed the three phases of ICT development. In the first phase, the question of the importance and the existence of computers in schools was addressed. The second phase he had discussed was the pedagogical implications of ICT, that is, when and how it should be integrated into the teaching and learning process. The third phase addressed was the complete change in the role of ICT in schools and the role of school itself as an open institution for society. This phase discusses the new boundaries of classrooms by making them opened up and the school itself increasingly using the resources in society for educational purposes. The new policies in Hong Kong are trying to bridge the gap between the phases.

Furthermore, the three important areas of vision and leadership, strategic planning and foundations were compared with the Hong Kong policy.

According to the goals of Hong Kong policy, the majority of the focus was on the school heads in establishing their vision and taking leadership and responsibility for all the activities. In Sweden, municipalities also expected school heads to take leadership roles in the ICT implementation. However, it stated that, even though the heads were trained with ICT skills, but was difficult to involve them to the required extent. The Hong Kong principals faced the same problem, as it was difficult for them to shift into the new forms of the curriculum and assessments. Research also showed that the teachers and heads were not clear on the integration of ICT into schools.

The second point was strategic planning, which means the process of connecting policies and giving progression to policy directions. According to Hong Kong policies, the IT was embedded into the curriculum guides and interactive learning became a key task included with set of generic IT skills. In Sweden, the school system was decentralised and the municipalities took responsibility for the whole sector of education. However, the Ministry of Education states that the student democracy and involvement must be taken into account as part of the learning situation. This showed that the ICT had influenced some of the curriculum restructuring. After the analysis, it became apparent that the teachers and students were not prepared to take up their new roles.

The third criterion was a foundation that means that the policies should be directed at professional development of teachers, infrastructure and online content for the effective use of ICT in education. It discusses the possibility of teachers sharing experiences with their colleagues. There was a focus on creating courses for teachers who wished to gain

more knowledge of IT in teaching to learn, as well as encouraging new teaching approaches. Hong Kong City education was expected to take on many roles in this area, such as providing effective resource channels, organising various IT related activities, developing E-learning platforms and online training courses for teachers, building communities for sharing their experiences and enhancing the resource development. In this aspect, Sweden has a very liberal approach. They appointed a pedagogic facilitator who supports the teachers and students in problem based and pupil orientated development projects. Teachers were supplied with computers for their homes to carry out this task. This model gives us the importance of ICT in professional development and planning. After the analysis, some of the negative aspects were seen, such as the teachers having more workload. In addition, there was the problem of allocation of budget for the teacher substitutes and the internationalisation of Hong Kong City's education.

Hollingsworth concluded in his study that those three criteria are essential for the successful implementation of the EMB document, however, he pointed out some difficulties. Vision and leadership has been made the responsibility of the school principals and other parties have been neglected. Strategic planning still has many issues that need to be dealt with and it was found that students and teachers were not yet ready to take on their new roles. In addition, he pointed out that the system is not ready to change from exam driven to student empowered. Although this document acknowledges the mistakes of previous documents, it was not supportive in reaching the third phase of ICT development.

Reviewing this study showed that ICT policies should consider the integration of different related factors during the planning of ICT development. These factors include the existence of computers and other ICT equipment and technical support in schools, a

suitable leadership having a clear ICT vision, pedagogical implications of ICT and integration of ICT into the teaching and learning process (Al-Ramiz, 2009). This study argued that although the Hong Kong policies were ambitious they encountered many difficulties in achieving their goals. This will instigate this research to investigate SPE and other educational policies in Kuwait deeply to find out to what extent those policies support ICT implementation in government secondary schools.

#### **3.2.3.4 Whole school Readiness**

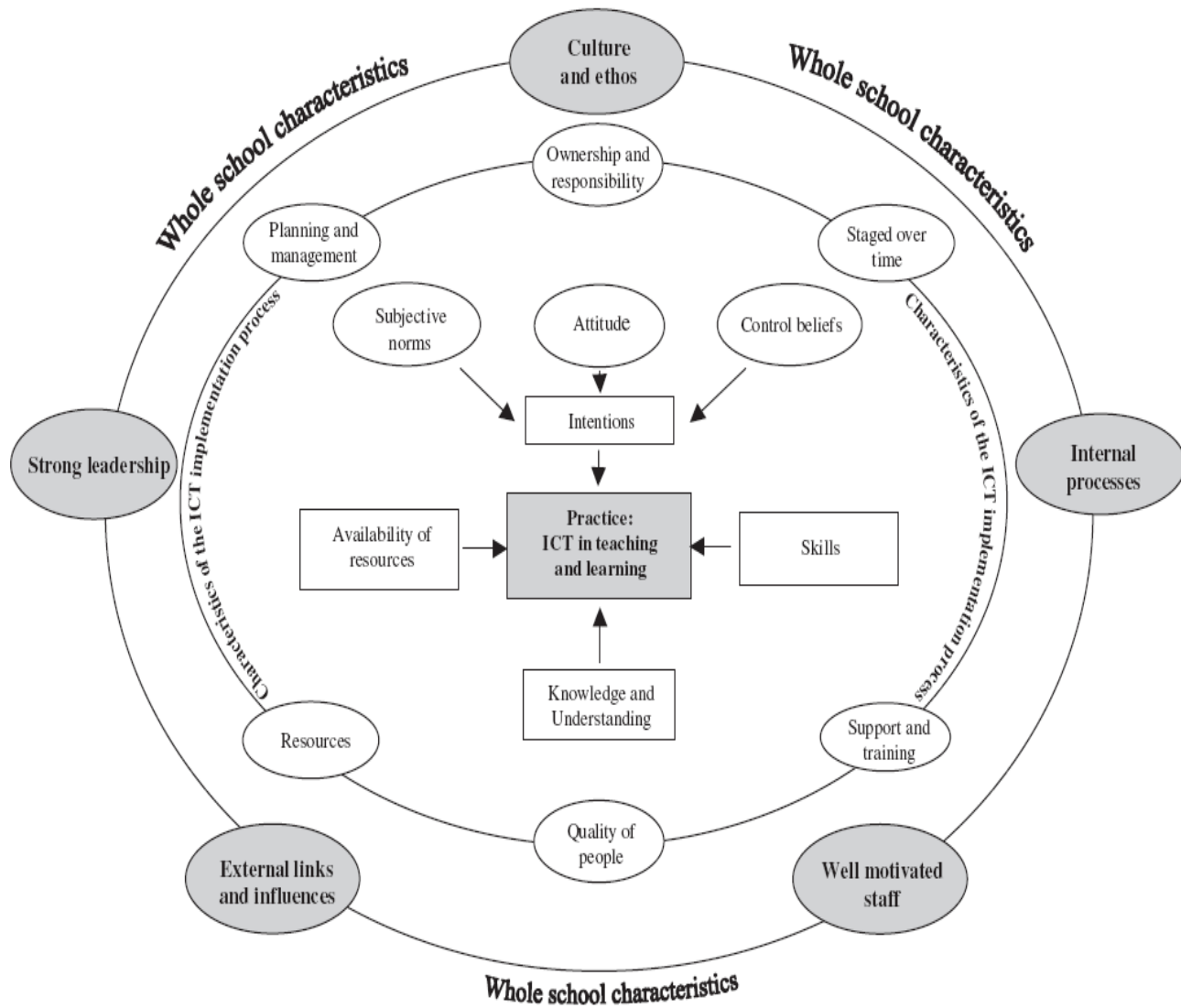
Implementation of ICT in schools is not only a matter of providing schools with the required infrastructure and equipment, but also providing teachers with training on the use of ICT in the classroom in addition to many other related factors. It is commonly observed, especially in some developing countries, that a lot of modern educational equipment and technological instruments stay idle for years until they become obsolete. The issue is related to the appropriateness of the educational environment of the school and its readiness to employ this technology. Carmichael and Procter (2006, p. 167)), as part of the project ‘Learning How to Learn’ in the ESRC Teaching and Learning Research Programme 2001-2005, suggested that,

*“while use of IT is now a well-established element of classroom practice, teachers made little use of electronic networks to develop their professional practice, even when their schools were part of networks designed to support them in so doing”.*

This illustrates the importance of integrating the process of using ICT with all related factors to create an appropriate supportive whole-school environment.

Tearle (2003, p. 581) reported some studies that had concluded that few teachers in the UK managed to integrate the use of ICT into their classes due to different barriers, such as lack of access and technical support, insufficient time for planning for new technology, lack of confidence in the use of networks and the inappropriateness of the educational context. She concluded, in a case study looking at the reasons for low “success” in some schools introducing ICT into teaching and learning that the success of ICT implementation *“allows the emphasis to be on the learning culture and vision of*

*the organisation as a whole*". Tearle presented a very useful model of whole school characteristics (see Figure 5 below).



**Figure 5: Model of whole school (Tearle, 2003)**

Literature associated with ICT implementation emphasises the importance of looking at the whole of school culture and the collaborative role of different elements in that culture and the context of the educational environment (Cuban, 2001; Tearle, 2003; Jones, 2004 and Becta, 2007). Figure 5, presented by Tearle (2003), explains the characteristics of the ICT implementation process as a whole unit that is formed from the interaction of different external and internal parties related to the school. She considered the strong leadership, the motivated staff, the surrounding culture and internal/external processes and influences as the main ICT 'container' of the other school's components. The second in-school 'container' is the internal ownership and responsibility, school management and proper planning, resources, qualified people, training and a proper timeframe. Those important external and internal elements of school culture have very important core ICT implementation requirements, such as resources, knowledge, skills and, more importantly, a strong intention for implementation. The strong intention is formed from positive beliefs, attitudes and subjective norms. This figure by Tearle is a very important piece of work for my research as it clarifies and summarises the most important factors in relation to ICT implementation in secondary schools.

This model, besides other literature reviewed in this literature review, has provided very important information that has helped to form the main areas of investigation of this study in order to understand the barriers to and influential factors on ICT implementation in secondary schools in Kuwait. Consequently, this research will try to explore the potential of introducing and implementing ICT in Kuwaiti government secondary schools by looking at the area as a whole and by investigating the possible connected parties, according to the available time and resources. This study has supported earlier literature findings and has explained that ICT implementation is not

simply the computers, the internet and trained teachers but a comprehensive and integrated matter that includes teachers' views, the surrounding social environment, policy making and many other micro and macro factors.

### **3.2.4 Resistance to Change of ICT Implementation**

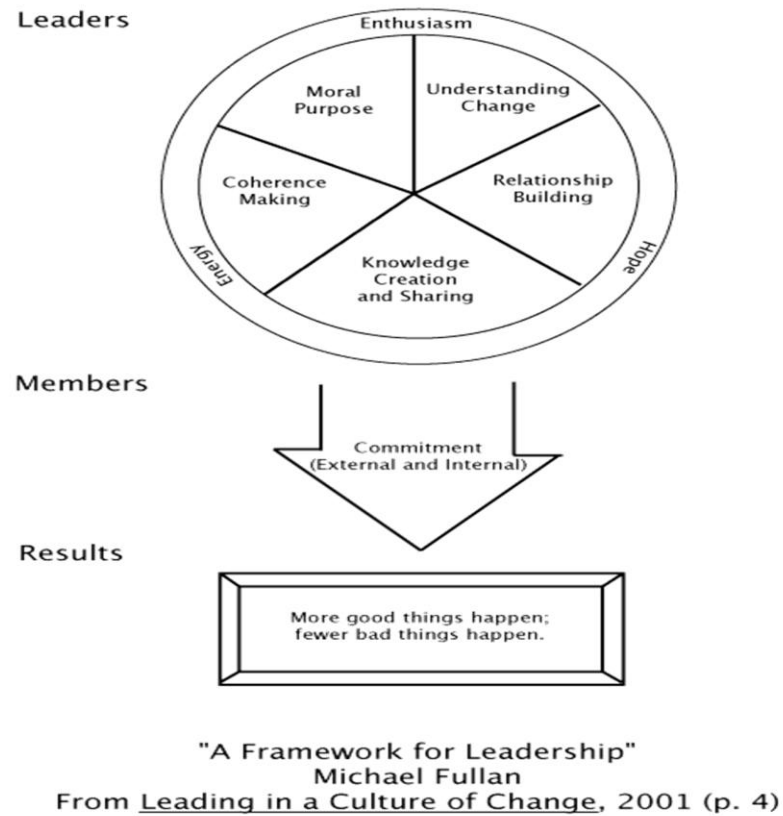
The intention of Ministry of Education to implement ICT in education was initially instigated by public dissatisfaction with the old Kuwaiti educational system, which had not been developed since the Kuwaiti liberation in 1992. People used to complain about the unstable changes that the MoE used to make in education, as partial solutions for various educational problems, without apparent real development. In addition, the bad results that Kuwait attained in some international assessment tests, such as Trends in International Mathematics and Scientific Studies (TIMSS) and Progress in International Reading Literacy Study (PIRLS), put more pressure on the MoE to make real developments in the Kuwaiti educational system, including ICT implementation. Dissatisfaction could trigger enthusiasm in the organisation to change, which requires a clear vision and plans about how to move towards the targeted goal and what the required course of action is to make the desired change take place (Fullan, 2001).

The Ministry of Education considers the Educational Strategic Plan, issued in 2003, as the vision adopted for the intended change and development of the whole Kuwaiti educational system, including integrating ICT implementation. Literature showed that moving into ICT implementation is usually influenced by different factors, including teachers' beliefs, which have an effect on resistance to change, (Watson 1998). The literature suggests that replacing negative stances with positive ones on ICT implementation has to take place through information, reconsidering teachers'



qualifications and continuous training. The management at the MoE and in schools have to do their best to increase motivation and decrease resistance.

In order to decrease resistance to change a different action needs to be taken by the changing organisation. According to Fullan (2001), major new solutions need to be available in schools, although there is a great uncertainty about what they will look like and how to get there. This fact causes anxiety, which can have positive effect. To succeed in the process of change successful organisations continually ask themselves worrying questions and are intentionally connected to external systems that do the same. The social motive enables them to ask and streamline troubling questions in ways to produce good ideas. Gathering of results energises people to go even further. This will transform the process of ICT implementation from merely being the use of new equipment to a being a comprehensive reform, including technical, social and pedagogical aspects.



**Figure 6: A Framework for Leadership**

According to this view from Fullan (Figure 6) and Al-Ramiz (2009), the leadership in the MoE has to dedicate efforts through educational administrators to encourage autonomous learning and ICT resources at schools, including maintenance of reliable connectivity. Organisational changes should include broadening horizons of teaching and learning aspects, taking into account an overall addition of ICT into all the school's aspects. Teachers must obtain aptitude and pedagogical knowledge to undertake the role of masters and facilitators of knowledge. Learners should be trained to gain the required collaborative learning skills. They should be aware of their responsibility in the learning process and aware of the need to find resources and different ways of learning. The MoE has to include community in its agenda, where families will be provided with guidance to enable them to play an active part in the educational processes of students.

Information should be contextualised and, from that, students will become able to establish relationships with other areas of the curriculum (Marti, 2006)

Students, according to the old curriculum, are separated from the outside world and, with the new technologies, the curriculum and other related school elements need to be changed. According to Watson (2001, p. 260) the barriers to ICT implementation are simply examples of barriers to change in general. Integration of the curriculum is a very complex process and teachers need time to experiment, study and explore the new technology. The MoE and administrative management of schools should support teachers and parents to accept and adapt to the change.

Teachers are the cornerstone of the learning and teaching process in the educational system and they should undertake their profound role in leading the change process in the educational system from the teacher-centred approach to a more interchangeable role, through facilitating and guiding students' self-directed learning processes. Wheeler (2001) gave four important reasons for the need for change in teachers' roles with regard to ICT implementation. Firstly, ICT will make some teaching resources, such as the chalkboard and overhead projectors, out-dated and will replace them with newer methods, such as networked resources. Secondly, ICT will develop assessment and performance evaluations and will help to instantly measure students' performances and compare their scores with previous ones to indicate their learning progress. Thirdly, it is no longer appropriate for teachers to be knowledge transmitters only and need to move forward and change from being lecturers to being organisers and enablers for collaborative working and critical thinking. Finally, teachers should develop their teaching methods to suit the learners' characteristics. In conclusion, the literature asserted that the leadership of schools should do their best to increase teachers'

enthusiasm and offer the necessary information and all external and internal facilities that could help to reduce their resistance to change in ICT implementation.

### **3.2.5 Why is ICT not in schools yet?**

Although there is increasing implementation of technology in different environments in our daily life, including education, the answer to the question about the reasons hindering and influencing successful ICT implementation in schools is still debatable. Since the introduction of computers and the internet in schools, and even before, many studies in different parts of the world, mainly in the UK and the USA, have addressed the limited implementation of new technologies in schools (Papert, 1993; Cuban, 2001; Tearle, 2003; Jones, 2004; Becta, 2007). These different, important researchers have addressed the issue from various perspectives, however they mainly agree on the important factors, such as teachers' preparation and training, school infrastructure, technical support and suitable software. Some of these studies have been intentionally undertaken in schools located in developed ICT environments, in order to minimise as many hindering factors as possible, and to find out why ICT implementation is not taking place in such schools.

I will shed light on a very important study, which carries a conservative viewpoint regarding the successfulness of ICT implementation and its role in teaching and learning development. When saying that it has conservative view point, it does not mean that the study is against ICT implementation in schools but that it has critical insights about the way computers are introduced to education. This study was undertaken by Larry Cuban in 2001 to examine the assumptions of educational reformers and technology manufacturers in claiming that new technology will make education better and will develop learning and teaching. The researcher aimed to carry out his study at the heart of the technology industry, where unique supporting factors of technology

implementation are available. The study took place in California - the Silicon Valley - and targeted the best schools in the area. The study's main objectives were, firstly, to find out whether schools were equipped with the required new technologies and whether those technologies were used for instruction in classes. Secondly, it aimed to find out whether change had happened for the better in teaching and learning and, consequently, society was better after two decades of technology promotion. Finally, it planned to find out whether the investment had been worth the cost.

Cuban used observation and interviews in the study, which revealed that more than 50% of teachers in the targeted schools were non-users of computers, 20-30% were occasional users (using the computer once a month) and only 10% were serious users (using a computer at least once a week). The study had also revealed that it was rare for students to use computers as a primary part of a lesson and only 5% of high school students had technical experience in computers. Less than 5% of teachers integrated computer technology into their curriculum or regular class routine and no clear evidence was found that students increased their academic achievement due to technology implementation. The majority of teachers used information technology to maintain existing patterns of teaching rather than to innovate. Nonetheless, some change has happened for teachers and students, but not what the promoters had advertised to people as fundamental change.

The findings of Cuban's study concluded that there were three main explanations for the limited change that happened in teaching and learning: the slow revolution explanation, the history and context explanation and contextually constrained choice. In explaining the slow revolution explanation, Cuban stated that James Beniger pointed out four Control Revolutions. These were the Agricultural Revolution at 10,000 years old, the Commercial Revolution at 1000 years old, the Industrial Revolution at 200 years old

and, finally, the Computer Revolution, which was only in its first half century and would need time to make changes in our institutions. Schools, unlike businesses, are citizen controlled, non-profitable and multipurpose and have many conservative layers. However, teachers are used to developing and changing their practices and some new teaching approaches are transforming over time. Cuban illustrated that, although there is a time lag between inventions and them entering into widespread use, some teachers changed their methods of teaching and used the new technology and he expects that the spread in use of technology will occur in upcoming decades. This is even though he is unenthusiastic towards the history and context explanation and the contextually constrained choice explanation, as different civic and social elements are taking place.

In order to propose some solutions Cuban (2001, p 180-183) stated the following important actions that need to be addressed:

- *“Plans would have to be made now for fundamental changes in how elementary and secondary schools are organised, including allocation of time and preparing teachers.*
- *Hardware and software should be specifically designed for teachers and students.*
- *Manufacturers should improve product reliability, limit defects, improve technical support, and test products on consumers before selling to district and state administrators.*
- *Provide sustained attention to special needs of urban schools and low-income communities concerning schooling quality.*

- *Respecting teachers' expertise and perspectives on classroom work and engage teachers fully in deliberation, design, deployment, and implementation of technology plans.*
- *Reducing structural constraints that limit teachers' choices in high schools and universities. Giving more relaxed schedules and more uninterrupted time for joint planning, crossing of departments' boundaries and sustained attention to different form of learning must be implemented.*
- *The infrastructure of technical support and professional development would need to be redesigned and made responsive to the organisational incentives and workplace constraints that teachers face”.*

After roughly a decade since Cuban's research took place and in spite of its distinctiveness and importance, some recent researchers are questioning whether Cuban's analysis of computers in the classrooms is still correct. They argue that many social and educational changes have happened, and are still happening, in ways that are now supporting ICT implementation (Harrison, 2006 and Becta, 2007). For example, ICT now is spreading widely and quickly in communities and amongst young people and the number of users of ICT is increasing daily. Harrison (2006, p. 85) argues that school learning does not take place just in school anymore and that home now needs to be regarded as a curriculum partner in schooling, as many homes are even more ICT developed than schools. This is an important and influential factor related to ICT implementation, as educators need to consider home and community in any ICT development plans, as they are now performing as major players in any future educational change.

Although Cuban's study was conducted a decade ago, it provides a useful framework for my study. Cuban's findings, as stated earlier, are very important and strongly influence ICT implementation in secondary schools and can be taken as a role model. Nonetheless, the factors influencing ICT implementation in Kuwait at this point in time, after changes in many ICT related issues, might be different from those found by Cuban. The researcher's study takes place in a different context and age, coming after the widespread use of ICT and the growing number of new users of emergent technologies, including teachers and students. Many of the factors stated in Cuban's study have taken place in community and education recently, in different ways. For example, hardware and software developed for teachers and students are found in many ICT stores and on educational websites. In addition, factors like teachers' ICT competences, technical support and development of ICT infrastructure are now much better than at the time of Cuban's study. This study about factors influencing ICT implementation in the Kuwaiti context, and after the spread of the use of ICT in many environments in the community, could add different or additional factors to those found by Cuban.

### **3.3 Summary:**

The literature review has strongly influenced this research in many ways. Firstly, it has provided a very broad view of ICT implementation in general and its implications in education in particular. Review of the history of ICT implementation showed that computers and other technologies were first introduced into schools a long time ago and that efforts to implement technology in education are happening continuously. It also showed the historical development of ICT implementation in education in the UK, the USA and some other countries. Literature review offered a deeper understanding of the different versions of ICT implementation in different educational areas. At the same

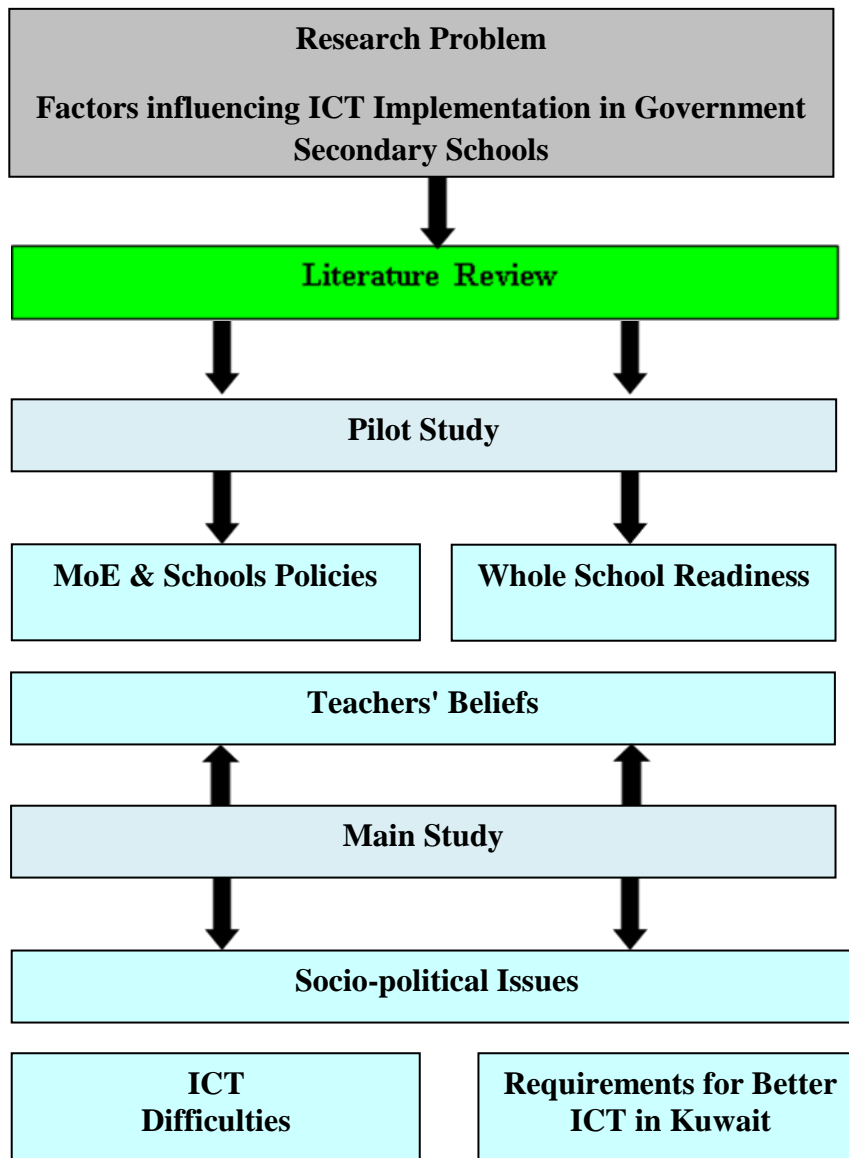


time, reviewing the global literature on ICT implementation revealed that the success of using technology in schools is still debatable and controversial.

The literature review on ICT in the Arab world has shown that the digital gap between Arab world countries and developed countries is still huge. It has also proven that the majority of Arab world countries, including the Kingdom of Saudi Arabia, have overcome the historical fear of accepting change to join the internet world. Many Islamic countries hesitated to accept the internet as they expected and feared a bad impact on youth and their Islamic principles. The literature review related to the Arab world has also shown that most researchers are very enthusiastic about ICT implementation in education and are strongly instigating Arab governments to bridge the digital gap between their countries and developed countries. This part of the literature review helped to form and refine some research questions, such as questions related to the policies and strategies of ICT implementation, transitions of belief about technology and the readiness of the infrastructure for ICT in the Arab world.

The literature related to ICT and the use of technology in education in general, and in secondary schools in particular, in Kuwait and the Arabian Gulf region remains, to some extent, limited. Although this part of the literature has shown that Kuwait, the UAE and Jordan are heading the Arab world countries in preparing for internet introduction and implementation in their universities and educational systems, they are still facing different types of difficulty. Al Harbi (1998) claimed that lack of clear aims, strategic plans, technical support, Arabisation and financial support are considered as the main obstacles to ICT implementation in management and education in the Arab countries.

In addition, the literature review of previous studies and the pilot study have formulated and developed the core areas of this main research and has helped to exclude irrelevant dimensions in the Kuwaiti context (see Figure 7). For example, the required actions for successful ICT implementation discussed by Cuban (2001), the model of the whole school by Tearle (2003) and many other studies have all emphasised the importance of the integration of many aspects of ICT and the efforts of many individuals in successful ICT implementation in secondary schools. Such studies clarified that ICT implementation is not only the computers and the trained teachers but is a comprehensive and integrated matter that includes ICT policies, school readiness, teachers' views, the surrounding social environment and many other micro and macro factors. From this part of literature review, the researcher has realised that ICT will need a long time to be part of any educational system, as the success of ICT implementation in the UK and the USA is still debatable issue, although, as they started using technology in education a long time ago, they have a much better infrastructure and ICT environment.



**Figure 7: Formulation of the research's main areas**

Finally, the literature review has helped a great deal in the design of the study and the selection of methods and choice of targeted samples for research. It developed the research questionnaires and interview questions and enabled me to specify my questions in more detail by determining the factors that I need to investigate more deeply, especially factors related to the Kuwaiti cultural issues that heavily influence ICT implementation. Additionally, it helped to explore the main factors that may increase or decrease resistance to change, such as teachers' beliefs and the schools' leadership, as

well as factors affecting use of technology, such as teacher training, curriculum development, technical support and free internet access to ICT resources. The literature review has also helped in the selection of the research sample that was asked to participate in the questionnaire and was called for interview. The next chapter will focus on the theoretical framework and research methodology.

The literature review has also revealed a gap in the literature in both the Kuwaiti context and on a global level. The research into ICT implementation in Kuwait is very limited and rather addresses the implementation of ICT in higher education than in secondary schools. In relation to ICT implementation in Kuwaiti schools, a very limited amount of research was found, such as Alfureih et al. (1996) and Al Bustan (2005). The aforementioned researchers addressed the importance of the use of computers in schools; however, they did not address the hindrances to ICT implementation. The gap in the literature on the global level exists in two, what could be important, dimensions that is, the context and the period of the literature. Cuban's analysis of why ICT is not adopted in secondary schools is only valid for a specific time and place. Conditions for ICT implementation in Kuwait are different from those in the Silicon Valley in the USA. In addition, schools' surroundings and the general spread of ICT implementation in the community in 2001 is not the same as the massive introduction of ICT into societies' daily lives during the last few years. The model of non-adoption discovered by Cuban in 2001 in the USA needs to be challenged and examined as many time and place variables have changed. New dimensions of this study, in relation to time and place differences, could be considered as the theoretical justification for this research into hindrances into ICT implementation in government secondary schools.

# **Chapter Four**

**(Theoretical Framework and Research  
Methodology)**

This chapter discusses the research's theoretical framework, paradigm and plan of the study. It also examines a detailed account of how the research plan was carried out and progressed. The first section discusses the theoretical framework of the research and is followed by the presentation of the paradigm and the approach to the study. Section 4.1.3 includes a description of the two phases of the research: the pilot study, followed by the main deep investigating study. The methodology, methods and research instruments are explained in section 4.2. This includes the design and implementation of the research's instruments. This chapter also presents the data collection process, including sampling and the instruments analysis procedures. Finally, it presents validity, reliability and ethical issues related to the study.

#### **4.1 Theoretical Framework, Paradigm and Plan of the Study:**

##### **4.1.1 Theoretical Framework:**

Educators have long been trying to understand the nature of problems in curriculum change and implementations in order to explore and employ the best of their research findings for students and the educational process as a whole. This suggests that educational research has its value through determining intellectual solutions for problems facing teachers in educational institutions. Biesta and Burbules (2003, p. 111) argued,

*“if educational research is to make a contribution to the improvement of education, it will be through the provision of new intellectual and practical resources for the day-to-day problem solving of educators. Improvement of education is, in other words, to be found in the extent to which research enables educators to approach the problems they are faced with in a more intelligent way”.*

Educational research has been debated and criticised by educationalists and different educational bodies in Britain and several questions are asked about the amount of funds that educational research costs annually (Pring, 2000). Several questions have been raised by policy makers, educational practitioners and researchers about the nature of educational research and whether it can be what learners and teachers need. Many participants in the field compare educational research with other evidence-based research, such as scientific and medical research, and claim that educational research should find ‘what works’ for the learning and teaching process through evidence-based educational research. On the other hand, others argue that education is not medicine and the relationship between learning and teaching is not a scientific experiment. They also claim that education is a social interaction where learners make sense of what is taught through different interpretations and it should not be treated as a physical interaction

Biesta and Burbules (2003, p. 105) argued, “*theory no longer comes before practice, but emerges from and feeds back into practice*”. They added that educational science and educational research are considered “*as much a practice as educational practice is*” and stated that the difference between the two practices is “*an epistemological difference, one in which science is purely concerned with knowledge and practice is purely concerned with action*”. Researchers, in general, and in the educational and social science field in particular, need to have sufficient awareness and understanding of the ideas, concepts, theories, philosophies, ethical and political dimensions and approaches developed in educational and social science research. The awareness of these crucial issues related to research empowers the researchers with a foundation that facilitates the progress of understanding and undertaking different research approaches. The recognition of the different research approaches can be tackled through looking at four main dimensions of each approach: the epistemological dimension, which defines

the kind of knowledge searched, the ontological dimension, which defines the assumptions about a social reality, the methodological dimension, which defines how to get knowledge about a social reality and the sociological and political dimension, which defines the surrounding social and political factors that affect research (Biesta & Burbules, 2003; Crotty, 2003).

Characterising the theoretical framework of a research study is not as easy a task as a new researcher may expect at the early stages of undertaking his research. He will come across different research approaches in different fields of studies and will feel uncertain about the most suitable approach that could lead his study and provide the framework for it. The selection of the suitable theoretical framework for a particular sociocultural study requires a broad and in-depth literature review of the area and a comprehensive awareness of the research problems and environment, in addition to the important issues that the researcher is aiming to investigate.

*'Two roads diverged in a wood, and ... I took the one less travelled by, and  
that has made all the difference.'* Robert Frost (1916)

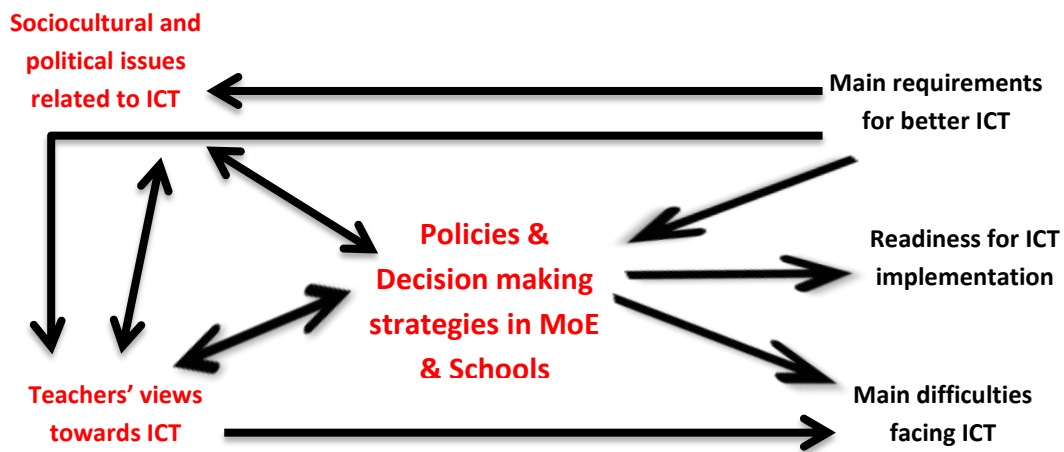
During the formulation stage of the aims and framework of this study, some friends and peers advised me not to expand my research area and to limit my PhD research to one or two aspects of ICT implementation, in order to save effort and time. I was aware, from the beginning, that investigating ICT implementation in government secondary schools as a whole would require huge time and effort. As sociocultural theory is underpinning this study, I would need to dig deep to collect and analyse vast amounts of data from different entities, including different related individuals and contexts, in order to explore and understand the overall situation and interpret the phenomenon. Traditional schools used instructionist model where the teacher transmits information to the students



without a real interaction from the student's end. However, according to sociocultural model of education, where ICT is aimed to be part of the learning and teaching process, many individuals in many related contexts take part in the development of the learning process. Learner now is playing an active role in the learning context where roles of the teacher and student are shifted and teachers should collaborate with learner to facilitate meaning construction, (Vygotsky, 1978). Conducting this research about ICT implementation under the guidance of the sociocultural theory will not limit the exploration and the investigation to teachers and students only. It includes many other related individuals such as parents, school principals, MoE decision makers, ICT technicians, curriculum designers and many others. It also includes many related contexts such as schools, MoE, home environment and many other related government and private authorities.

In practice, I found that undertaking this research was not only time consuming and hard work during the normal process of searching for information, but also took time and effort in double checking, comparing data, clarifying and updating information through different levels of participants and related institutions. The researcher had to meet some interviewees more than once to discuss and clarify different important issues related to information found or merged from other sources of information. Nonetheless, the pilot study and literature review helped to avoid searching undetermined open areas of research and focused the research direction onto the most important aspects of the situation. The research was mostly focused on the main related areas, such as readiness for ICT implementation, the main difficulties facing ICT, related strategies and decision-making in the MoE, teachers' views in relation to ICT, sociocultural and political issues related to ICT and, finally, the requirements for better ICT implementation. Although each one of these aspects of the ICT situation in Kuwait has

its own crucial role in ICT implementation, the policies and decision making in MOE, schools and teachers seem to have a major influence on all other aspects. The core influential area is MoE's and school's policies and decision making strategies as it is interacting with all ICT implementation areas. For example it is exchanging interaction with teachers and sociocultural and political issues as each of them is having influence on the other. Simultaneously, MoE's and schools' policies and strategies are responsible for readiness of ICT implementation in the educational environment. MoE, schools and teachers are mainly the reason for the main difficulties facing ICT implementation. (see Figure 8).



**Figure 8: Interaction among the research's main areas**

Requirements for better ICT implementation are mainly needed from policies of MoE and schools, teachers and related sociocultural and political factors. Those main factors are considered as direct or indirect causes hindering ICT implementation in government secondary schools.

Many ideas have been presented and organised from the pilot study and literature review and have contributed to forming the theoretical framework of this study.

Contextualising the situation in the light of pilot study and what has been researched by previous different studies has helped to identify the gaps in the literature and the rationale of the current study. The pilot study and literature review helped to identify gaps to be covered and the specific framework and methodology to be implemented in this research. In addition, it unveils the huge gap in educational research in general and specifically educational research in ICT implementation in the Kuwaiti environment (Al Bustan, 2005; Al Rasheedi, 2010). Al Rasheedi (2010) pointed out that the lack of educational research affected planning processes in the MoE and caused repeated educational problems in the Kuwaiti educational environment, and leading to undesirable outcomes in spite of the huge governmental spending on education. Therefore, the contextual framework of this study is mainly based on Western and Arabian studies, with a small amount of Kuwaiti research related to ICT implementation, due to the lack of Kuwaiti-based literature.

#### **4.1.2 Paradigm and Approach of the Study:**

At the beginning of undertaking this research, I was expecting that the paradigm I would use would be simply based on a questionnaire for students, teachers and some educators with a comparison between teachers implementing ICT and others who do not implement ICT. However, after reviewing the literature, I found that different areas and issues needed to be addressed and investigated. I found that an integrated study of the environment, including political, technical, pedagogical, financial, ethical and educational issues, needed to be undertaken. Some in depth information needed to be obtained from the participants in the study, especially information related to teachers' views in relation to ICT implementation. Realisation of this fact led me to think of using the interpretive paradigm to obtain insightful information about influential factors

obstructing ICT implementation in secondary schools in Kuwait from different participants, in different sectors in the educational environment, in order to reach reliable reports of reality.

I refined my research questions in the light of the literature review and, simultaneously, the aims of this study, which led me to follow interpretive paradigms as a theoretical framework of this research. The selection of this paradigm depended on what I was looking to investigate and what information I was trying to get. In order to achieve the general aim of this study to discover factors influencing ICT implementation in English language classes in government secondary schools in Kuwait, this research aims to look at the following issues:

- To discover student, English language teacher and mentor readiness for ICT implementation in government secondary schools.
- To find out what the teachers' views are in relation to ICT implementation.
- To explore the readiness for ICT implementation requirements, in terms of infrastructure and curriculum, in government secondary schools.
- To explore the main barriers to ICT implementation in government secondary schools.
- To find out what policy and strategy the Ministry of Education (MoE) has adopted towards implementing ICT in government secondary schools.
- To explore if there are any socio-political barriers hindering the use of ICT in secondary schools.
- To discover what the main requirements are for better ICT implementation in Kuwaiti secondary schools.

The pilot study in this research generally explored the area using a quantitative method, where the epistemological view of this part of the research was fact-finding and looking for meanings in the independent object of study (objectivism). By contrast, the main study intends to explore teachers' reasons for implementing or not implementing the

policies of the MoE encouraging ICT implementation. Related issues to this part of the research will be addressed by the use of an interpretive paradigm, based on constructivism theory, as research tries to find some more in-depth information and explanations. Crotty (2003, p. 8) claims that in (constructivism) epistemology, *“meaning comes into existence in and out of our engagement with the realities in our world”*. It says that meaning is not simply lying there (objectivism), nor created by subjects (subjectivism) but constructed and generated by a partnership of subject and object. With this understanding, different people may construct different meanings in different ways for the same phenomenon. Consequently, I may state that the epistemological stance underpinning this part of the research is a constructionist epistemology using an interpretive research paradigm, as it is a sociocultural research, where a multi-interaction between different social realities in the world takes place. This research will try to find the interpretations of diverse individuals (teachers, students, educators and administrators) from different worlds (government schools, the Ministry of Education, Teacher Training Colleges and Educational Committees in the National Assembly) about barriers to using ICT in English language classes in government secondary schools in Kuwait. In this regard:

*“social reality is regarded as the product of processes by which social actors together negotiate the meanings for actions and situations”* (Blaikie, 1993, p. 96 cited in Crotty, 2003, p. 11).

The fact that this research is trying to collect different kinds of information from different categories of participants will influence the choice of methodology and methods applied in this study. According to Willington (2000), methodology aims to describe, evaluate and to justify the use of particular methods. As Crotty (2003) states it provides a rationale of our choice of a particular method and links it to the desired

outcomes. This can lead us to say that different kinds of research approaches need different types of methodology in order to reach the desired outcomes and answer our research questions.

Relatively speaking, this research adopts a survey methodology where quantitative data, supported by qualitative data, will be gathered from the participants using different methods. Crotty (2003, p. 15) argued that *“our research can be qualitative or quantitative, or both qualitative and quantitative, without this being in any way problematic”*. Quantitative data will be gathered by a questionnaire, obtaining information from teachers and students secondary schools, to answer the first three issues of this research. In addition, more in-depth qualitative data will be gathered through interviews with teachers and educators, along with documentary research for the other sub-questions of this study.

#### **4.1.3 Study Plan:**

This study is aiming to discover the barriers and factors influencing Information and Communication Technology (ICT) Implementation in English Language classes in government secondary schools in Kuwait. It tries to explore and investigate this area and answer the questions of the study through a two-phase study. The pilot study was the crucial fact-finding exploration that helped to support the researcher's individual experience in the field of study and clearly identified the area of research, providing a better understanding of the current situation relating to ICT implementation. It was undertaken through a small-scale questionnaire, a few interviews and a documentary research. Through those instruments, the researcher was trying to understand existing ICT implementation in government secondary schools, including finding out if schools' infrastructure, students and teachers are currently ready for implementing ICT. This part

also explored current policies and the difficulties facing ICT implementation in government secondary schools and the strategy adopted by the MoE to overcome those difficulties. Although the sample covered in the pilot study was limited, the respondents have provided enough essential information describing the current situation and putting the foundation in place for this in-depth investigating study.

On the other hand, the main study is an in-depth investigation leading to a constructive interpretation, from different participants, into the influential factors and barriers obstructing ICT implementation in government secondary schools in Kuwait. The importance of this phase of the research is its direct contact with strongly related participants from the core of the educational environment in Kuwait in order to find out their reasons for implementing or not implementing ICT. This is undertaken through a large-scale teachers' questionnaire and open interviews with selected teachers, selected key decision-makers from the MoE and members of the Educational Committee in the Kuwait National Assembly. This part tries to interpret the barriers and influential factors obstructing ICT implementation in secondary schools through a deep investigation into six main areas. It investigates the readiness for ICT implementation requirements in government secondary schools in terms of infrastructure, teachers and the curriculum. It also investigates teachers' views about ICT, other difficulties facing ICT, policy and decision-making in the MoE, socio-political factors and, finally, the requirements for a better ICT implementation.

#### **4.1.3.1 Areas Explored in Pilot Study**

The data collection process of this research was mainly based on “*what do I need to know and why*” (Bell, 1996, p. 63) and how I could collect that information with limited time and resources. The pilot study, (Appendix 11) was a fact-finding study about the

state of current ICT implementation, aimed to explore and confirm my individual experience with the existing situation of ICT implementation and to have an overall view of the area of research. This exploratory study helped in finding the most important areas needing more in-depth investigation in the main study of the research, which aims to reach a better understanding of barriers to ICT implementation in secondary schools in Kuwait. The pilot study, answered some sub-questions through a questionnaire directed at a small sample of secondary school students and through semi-structured interviews with some students and teachers of English Language in a selection of government secondary schools in Kuwait

Pilot study explored the current readiness of students, teachers and school infrastructure for ICT implementation. It also explored some practical actions taken by the MoE regarding preparation of the educational environment for ICT. It found out to what extent teachers' and students' current use of ICT and the current infrastructure could support ICT implementation. This part also investigated current difficulties that teachers and students face during their personal or educational use of ICT. In order to proceed in this main study, the pilot study answered some crucial questions related to current ICT situation in the Kuwaiti government secondary schools. The questions answered in the pilot study are:

- What policies and strategies adopted by the Ministry of Education towards using ICT in government secondary schools?
- What ministerial decisions and actions that have been taken and executed in relation to ICT implementation in terms of infrastructure, teachers and the curriculum in government secondary schools?
- What are the current ICT competencies of students and teachers?



- What teachers training programmes are implemented in Teacher Training Colleges in Kuwait?
- To what extent does current curriculum and ICT infrastructure available in schools support ICT implementation?
- If there is any current ICT usage, what sort of ICT is implemented by teachers?
- What are the current major difficulties obstructing teachers from implementing ICT?

#### **4.1.3.2 Areas of Study**

This study carries out an in-depth investigation to answer important sub-questions of the research and tackle sub-questions that have not been answered or questions that have emerged during the pilot study. The general aim of this study is to investigate deeply why teachers are implementing ICT or not in their teaching. It uses a questionnaire for a sample of 306 English Language teachers in different government secondary schools in all six educational areas in Kuwait, covering 25 secondary schools for boys and 25 secondary schools for girls. In addition, this questionnaire is backed up with open interviews with 15 selected teachers and key educators in the MoE and members of the Educational Committee in the Kuwait National Assembly. This questionnaire and the interviews are planned to answer different crucial research questions and put different issues related to the research together to provide a better understanding and interpretation of the research problem.

#### **Research Sub-questions:**

Based on the literature review and the findings of the pilot study, this study tried to investigate influential factors related to readiness of students, teachers and schools

infrastructure for ICT implementation. It also aimed to examine dedicational policies and decisions that are taken by MoE regarding preparation educational environment for ICT. In addition, this part inspected the impact of the socio-political factors on the educational process. It endeavoured also to find out to what extent teachers' belief supports ICT implementation. This part also attempted to investigate main difficulties that teachers face during ICT implementation. In order to proceed in this study, the researcher tried to answer some crucial sub-questions that are related to this part using a questionnaire. These questions could be summarised as follows:

- To what extent are schools ready for ICT implementation in relation to ICT infrastructure, technical support, curriculum and teachers' ICT competences?
- What policies and strategies does MoE adopt regarding ICT implementation?
- What are teachers' views of ICT implementation?
- What are teachers' perspectives about socio-political factors hampering ICT implementation in government secondary schools?
- What are the main barriers to ICT implementation?
- What is needed for better ICT implementation in government secondary schools?

#### 4.1.4 Progress of the Study:

Practically, this research started in the educational year 2006 to 2007 and the literature review was one of the first difficulties that this study faced due to the lack of local ICT literature related to secondary schools in Kuwait. This led to a reliance on regional and global ICT literature related to secondary government schools to draw up the plan and the research strategies in order to achieve its aims. The data collection process of the pilot study took place in Kuwait by the end of the educational year 2007 to 2008. It was based on a literature review, some official documents and the researcher's experience as an English language teacher in different schools and institutions in Kuwait. The data collection process for the main study took place in Kuwait at the beginning of educational year 2009 to 2010. It was based on the literature review, the findings of pilot study.. Table (3) below presents the progress of the data collection process in the two phases of the study.

**Table 3: Timetable of the data collection process**

<b>Phase</b>	<b>Aim</b>	<b>Data</b>	<b>Source</b>	<b>Dates</b>
<b>Pilot Study: Exploring</b>	<ul style="list-style-type: none"> <li>-Current students' &amp; teachers' ICT competence.</li> <li>- Infrastructure.</li> <li>- Curriculum.</li> <li>- Teachers' preparation &amp; training.</li> <li>- MoE's policies &amp; plans</li> <li>- Main difficulties facing ICT.</li> <li>- Other related issues.</li> </ul>	Questionnaire, interviews & documents	Students, Teachers, MoE, Kuwait University & PAAET	Academic year 2007/2008 and Academic. year 2008/2009
<b>Main Study: Interpretation</b>	<ul style="list-style-type: none"> <li>- Schools' readiness (teachers, infrastructure, and curriculum).</li> <li>- Teachers' views.</li> <li>- MoE's policies &amp; plans.</li> <li>- Socio-political factors.</li> <li>- Other difficulties.</li> <li>- Requirements for better ICT.</li> </ul>	Questionnaire, interviews & documents	Teachers, Educators, MoE, Kuwait University& PAAET	September to December, academic year 2009/2010

## **4.2 Methodology:**

Methodology describes, evaluates and justifies the use of a specific method(s) and provides a satisfactory rationale of our choice of a particular method and connects it to the desired outcomes (Willington, 2000; Crotty, 2003). Therefore, different kinds of research approaches need different kind of methodologies to reach the desired outcomes and answer the research questions. The interpretive research methodology is a way of studying and thinking about the social facts, while the research methods are procedures and techniques for the collection and analysis of data regarding that reality.

In this research, the aims of the study and the theoretical framework decided the methodology adopted for data collection and exploration. Educational studies are mainly carried out through two types of data collection analysis. The quantitative research is based on surveys and numerical data to investigate statistical relationships between different variables. This type of research uses different methods, such as questionnaires, experiments, observations and different close-ended surveys. On the other hand, qualitative research involves deep analysis of non-numerical data using different methods, such as interviews, focus groups, case studies, content analysis etc. The interpretive paradigm does not provide us with findings that can be generalised; however, it enables us to look at the topic of research in an in-depth way, which enables us to have a deep and rich understanding of the phenomena studied, Bryman (2004, p.287)..

This study adopts sociocultural theory as the guide for its theoretical framework in investigating barriers to ICT implementation in government secondary schools in Kuwait. This is achieved through providing noteworthy insights into teachers' beliefs and readiness, educational policies, socio-political factors and different ICT

implementation requirements. It is intended to collect and analyse knowledge from students, teachers, educators and other experts related to the educational environment in Kuwait and investigate it through different data collection instruments. The sociocultural theory drives the selection process of the sample of the study and the data collection tools. The data gathering instruments are decided on and designed according to the targeted sample of the study and its relationship with the culture surrounding ICT implementation in Kuwait. Questionnaires are found useful for some participants in the study, while interviews, or questionnaires and interviews, are found more useful for other participants. This facilitates exploration of participants' ideas, feelings, perceptions and experiences, which could help to interpret the situation and, consequently, answer the study's questions. Awareness of the culture and the social circumstances in which information and knowledge are found helps to form a deeper interpretation of the situation behind this enquiry. Understanding the whole context of the situation will assist in having a clearer picture and a deeper understanding of it and will support the analysis of the information gathered from participants in the study. Situating the information gathered in its relevant sociocultural context can be better achieved if the researcher is a part of the culture. In this study the researcher is part of the culture and social environment as an English language teacher in different secondary schools, and other educational institutions, in Kuwait over a long period of time. Sociocultural theory affirms that, to understand the human mind and actions, you need to understand the environment from which they have emerged.

### **Triangulation:**

The triangulation concept includes the methods for multi data sources, multi researchers and multi theoretical approaches. It is used to check the validation and reliability of the data collected from the research and to crosscheck its accuracy.

Qualitative research implies the principle of triangulation for the measurement of the accuracy of methods used in the research and that research questions are approached through different routes, which limits any imprecision of the interpretation of each method. Tearle (2002, p. 115) asserted that triangulation is not used in order to determine "single correct" outcomes for different points, but to provide a "broader base" for interpretation and to help highlight matters that needed further consideration.

In this research, a methodological triangulation was used by different methods to research the same issue for cross checking one result against the other and increasing the validity and reliability of the results. Cohen et al. (2003) argued that:

*“Of the six categories of triangulation in Denzin’s typology, four are frequently used in Education. These are: time triangulation with its longitudinal and cross-sectional studies; space triangulation, as on the occasions when a number of schools in an area or across the country are investigated in some way; investigator triangulation, as when two observers independently rate the same classroom phenomena; and methodological triangulation. Of these four, methodological triangulation is the one used most frequently and the one that possibly has the most to offer.”* (Cohen et al., 2003, p. 115)

Methodological triangulation indicates that different methodologies could offer results that are more accurate. It is a method to verify information by linking them through different methods in order to reach a reliable interpretation of the researched issue with more confidence. This research uses three interpreting methods: a questionnaire, documentary research and interviews with different participants, including teachers and key educators, in order to obtain the maximum possible interpretation and understanding of barriers to ICT implementation in secondary

schools in Kuwait. This approach entailed quantitative and qualitative research techniques, employing the use of mixed methods for greater confidence in the findings of the research (Bryman 2004, p.275).

#### **4.2.1 Research Methods and Instruments:**

Designing the suitable data collection methods and tools is one of the fundamental elements of interpretive research. However, applying these methods in a continuous interaction technique amongst participants, to generate as much data as possible, is an even more important aspect of the interpretive approach, Creswell (2003, p.212). The research's instrument design should match the aims of the study and show appropriateness to the research questions. The epistemology underpinning research must reflect the objectives of the study. Crotty (2003, p. 3) argued that epistemology is "*a way of understanding and explaining how we know what we know*". Epistemology, according to Biesta (2005), is ideas about the nature of knowledge. Crotty (2003) claimed that there is a range of epistemologies. Firstly, he defined the objectivist epistemology (objectivism), which holds that meaning and meaningful reality exist as such apart from any consciousness. For example, a 'tree' in the forest is a tree by itself and, when human beings recognise it as a tree, they are simply discovering a meaning that has been lying there in wait for them. He defined another epistemology that rejects this view of human knowledge. This epistemology is constructionist, which rejects the idea of an objective truth waiting for us to discover it and claims "*meaning comes into existence in and out of our engagement with the realities in our world*" (Crotty, 2003, p. 8). It says that meaning is not lying there (objectivism), nor created by subjects (subjectivism) but constructed and generated by a partnership of subject and object. In this understanding, different people may construct different meanings in different ways about the same phenomenon. The third epistemological stance that Crotty has pointed out is subjectivism in which "*meaning*

*does not come out of interplay between subject and object but is imposed on the object by the subject. Here the object as such makes no contribution to the generation of meaning”* (Crotty, 2003, p. 9).

In this interpretive research, the epistemology is a constructionist one, where meaning is constructed and generated through a partnership of different people constructing different meanings, in different ways, about the same phenomenon. Therefore, designing the research instruments was the most critical point in this research, as they needed to be designed to construct a valid interpretation of the situation from different participants within the limitation of time and resources of the study. The design of the data gathering tools was mainly based on Marshall (1997), Nunan (1999), Cohen et al. (2003), de Vaus (2004), Bryman (2004) and the guidance of the supervisors of this study and some other experts within Kuwait University.

A method triangulation of documentary research, questionnaires and interviews were carried out to collect data from a triangulation of participants including teachers and educators, which build confident in research findings according to Bryman (2004, p.275). Documentary research involving collection of different documents related to ICT implementation in Kuwait was used. The targeted authenticated documents are from official Kuwaiti authorities such as the Ministry of Education, Kuwait University and the Public Authority of Applied Education. Collecting and analysing those documents helped to generate very important data and answered some of the research sub-questions. This method took some time but it helped to gain valuable information relating to the research and become a helpful background for preparing the questionnaires and interviews. After documentary research, a questionnaire was implemented to collect data from 306 teachers, in 50 secondary schools, in all educational areas in Kuwait. The questionnaire was backed up with open interviews



with 15 teachers and educators in the MoE and members of the Educational Committee in the Kuwaiti National Assembly (KNA).

#### **4.2.1.1 Documentary Evidence:**

At the beginning of this study, the plan was to use questionnaires and interviews only as instruments of research; however, during the process of the literature review and the formulation of the theoretical framework it was decided to include limited documentary research as a third supporting method. The aim of including this method of research was to find out the effects of the strategic plan of the MoE, released in June 2003, which claimed to implement ICT in the Kuwaiti education system. This method of research looked at decisions of the MoE that interpreted its strategic plan in relation to ICT implementation through development of curriculum, human resources, infrastructure and financial and technical support. Different documents, including official reports and government resolutions, issued by the MoE and Teacher Training Colleges were investigated and analysed to answer some crucial research sub-questions about preparing the school environment for ICT implementation.

#### **Purpose:**

The main purpose of this indirect method of data collection is to have another angle from which to view the situation and to evaluate the existing strategy plan of the MoE towards ICT implementation in government secondary schools. This research technique provides a conceptual framework to gain a better understanding and interpretation of the research problem. It also provides valuable authentic data and fine detail that help to formulate other data collection instruments used in the two parts of the study. The documents investigated are mainly public and government documents and vary between primary and secondary documents. This data collection tool has influenced other data collection activities as questions in the questionnaires

and interviews were changed several times before being piloted, in the light of the findings from the documentary research.

**Content:**

Documents were sought in the research that originated both from schools, the MoE and Teacher Training Colleges. They were selected if they might add to the understanding of the current ICT situation in government secondary schools and the way it operated, specifically in relation to ICT strategy, policy, planning and implementation. Some of the documents have influenced the pilot part of the research but their main influence was on this part of the study.

**Implementation:**

The Ministerial Resolution No 359/2002 related to International Computer Driving Licence (ICDL) and the Strategic Plan of the Ministry of Education, issued in June 2003, had been obtained from the MoE website and the websites of some government secondary schools had been explored prior to implementation of the first part of the study. During the pilot study, and to prepare for this part of the study, the head teachers and school principals were asked for documents that they felt might contribute to the research. Various other documents were specifically requested from schools, the MoE and Teacher Training Colleges. Those included documents such as:

- ICT development plan
- School management structure
- School inventory request
- ICT training course decrees
- ICDL Ministerial Resolution No 359/2002

- The strategic plan of the Ministry of Education issued in June 2003.
- The reports of educational spending from 2000/2001 to 2007/2008
- The modules' list of English Language students in the College of Education in Kuwait University for the academic year 1993/1994
- The modules' list of English Language students in the College of Education in Kuwait University for the academic year 2007/2008.
- The modules' list of English Language students in the College of Basic Studies in The Public Authority of Applied Education for the academic year 2007/2008.

Those documents were evaluated and filtered into a shorter list including the most related ones to the research areas. Those, consequently, were analysed and used as source of information that implemented in the questionnaire and interviews.

#### **4.2.1.2 Questionnaires:**

After going through literature review, pilot study and documentary research, it was very crucial to investigate the areas of research through teachers as they are the key population of this study. The best data collection tool for gathering information from over 300 teachers was the questionnaire, (Appendix 2).

#### **Purpose:**

The questionnaire implemented in this study was aimed at obtaining generalizable results from a large population of English language teachers in government secondary schools. It aimed also at follow-up work to get teachers' responses towards the outcomes of the pilot study and to fulfil the main aims of this research by offering descriptive data on the teachers' beliefs, practices, evaluations and relationships to

ICT implementation (Cohen et al., 2003). As the first questionnaire implemented in the pilot study was aimed at seeing if there had been any ICT implementation and to find out to what extent it had been implemented, this questionnaire looked more deeply into the reasons and factors hindering or influencing ICT implementation.

### **The Rationale of Using Questionnaire:**

In interpretive research, a questionnaire is a practical and affordable technique for data collection from a large number of participants and is mostly applicable in surveys of quantitative and social research (Cohen et al., 2003; Creswell, 2003). It is considered a viable method to reach enough numbers of participants to allow statistical analysis of the results. Although a questionnaire is not an expensive technique of data collection, it needs to be designed with a great deal of time, effort and consciousness to collect valid and reliable information about the topic under research.

There are a variety of reasons why questionnaires are considered a suitable method for data collection. Maintaining confidentiality is one of the main reasons that make a questionnaire the preferred method for data collection, especially when it needs to answer embarrassing questions related to critical issues. Questionnaires are also considered an inexpensive form of data collection tool for collecting information from large groups of people. The administration cost of each person participating in a questionnaire does not exceed the number of photocopies and few minutes of distributing and collecting the questionnaire back. One of the major advantages of a questionnaire is its corroboration with findings from other information collection resources such as interviews, observations or documentary research (Cohen et al., 2003).

**Design:**

The design of the questionnaires and other research instruments were mainly based on the aims of the study and were connected to the literature review that has drawn the theoretical framework of the research. The literature review and documentary research have led this research to use questionnaires to address some of the research questions during part one and part two of the study, where two questionnaires were used. The first questionnaire was used to collect information about students' current personal and educational ICT usage in secondary schools in Kuwait and the difficulties they faced in this regard. On the other hand, the second questionnaire was used to collect information from English language teachers in government secondary schools in Kuwait. The information addressed in the second questionnaire related to teachers' current ICT implementations, teachers' views about ICT implementation, barriers to ICT implementation, socio-political issues related to ICT implementation and, finally, requirements for better ICT implementation.

In order to design a useful self-administrative questionnaire for this research, the basic rules of questionnaire design were followed, as questionnaires are best used for collecting factual data and appropriate design is essential to ensure the validity of responses to the questions asked. Firstly, the independent and dependent variables of the study were established and the questions about the information related to each kind of variable were set and adjusted. As a result, the questionnaire was designed to be as direct, simple and as clear as possible. Only essential questions about background were asked and embarrassing ones were avoided. Difficult and vague questions were refined several times and rephrased to make them more easily understood by all participants. Hypothetical questions, which could force the respondents to think about things they may never normally consider, were also avoided. The design of this questionnaire tried to avoid negative questions and ask

precise questions avoiding words with different meanings that may create ambiguity (Cohen et al., 2003). Friendly introductions were used as a welcome message to encourage the participants to complete the questionnaires. It was also decided what the population of the research would be and what information we intended to collect was. The participants in this questionnaire were 306 English language teachers, working in around 50 government secondary schools, distributed across six educational areas in Kuwait.

### **Questions Types:**

This research has used closed format questions in the questionnaire, however, it also used some open format questions

Some information related to participants' spontaneous opinions about some of the research issues has required the researcher to use a few open format questions, which are useful for asking about different, subjective information. The length of questionnaires applied in this research takes the types and numbers of participants into consideration, as it is always observed that the length of questionnaires and their complexity affects the rate of responses. People usually dislike long questionnaires that take a lot of time. Therefore, the questionnaire in this study was designed to be a reasonable length so that it encouraged people to participate without affecting the quality or quantity of information collected. Besides the length of the questionnaire, the order in which the questions were arranged was also very important. The questions were designed to move from general to specific information and to shift from simple to complex questions, Creswell (2003).

### **Content:**

This questionnaire was designed after finishing the pilot study, which had enabled the researcher to gain a better idea about ICT implementation in government secondary

schools in Kuwait. The area for research became clearer after conducting the exploration pilot study, including the documentary research. This provided useful data that helped to prepare the content of this study, which aimed to collect some more in-depth information about the topic of research. This questionnaire was quite a lot longer than the one used in the piloting part, as it investigated more detailed information from a larger sample of English language teachers. The content of this questionnaire was informed from the theoretical framework stated earlier in this chapter and divided into the following sections:

- Background of existing ICT implementation.
- Teachers' views towards ICT implementation.
- Conditions of ICT implementation.
- Requirements for better ICT implementation.

The first section of this questionnaire investigated the existing ICT situation in schools from the teachers' perspective. This section has elaborated and double-checked the findings from the documents and the pilot study. In addition, it investigated teachers' ICT experiences, whether they had acquired the ECDL certificate and whether they had computers and internet access in schools. The second section examined the individual influences of teachers' beliefs and opinions towards, ICT implementation. The third section investigated the main influential factors and barriers to ICT implementation, including socio-political ones, from the teachers' points of view. It also examined teachers' perspectives towards the ICT policies adopted by the MoE and the school management. The fourth section investigated teachers' opinions on the main requirements for better ICT implementation in government secondary schools, in relation to the school, teachers, students and other requirements. The main school ICT requirements discovered included ICT equipment (hardware/software), internet access, technical support and curriculum

development, while teachers' ICT requirements included the teachers' preparation, their employment, teacher training, their evaluation and providing teachers with ICT information. The main ICT requirements related to students included encouragement within ICT implementation, preparation in earlier educational stages, training and providing students with ICT information. Other requirements, such as providing political and financial support, expert management, short and long-term ICT plans, new ICT regulations and providing ICT information to parents and educators were also investigated.

### **Piloting and Implementation:**

In order to evaluate the questionnaires in this research it was planned to test them on a small group of people, to undertake a pre-testing process and to check the first drafts of the questionnaires. Implementing questionnaires in a large survey requires three phases of evaluation. In the first phase, limited questions are asked of the respondents and the responses are analysed to evaluate the impact of every word and sentence and the way respondents understand them. In the second phase, the complete questionnaire is piloted and modified according to the analysis of the participants' responses and their understanding of the questions. The third phase of piloting the questionnaire polishes and improves the final draft, including content, time, length and layout, Marshall (1997), Cohen et al. (2003), Bryman (2004).

The research questionnaire was initially piloted amongst 10 Arab overseas students at Exeter University, who were Kuwaitis, Saudis, Omanis and Egyptians. They were not deliberately selected in this mixed group but because they were the only available group of Arab students in Exeter during the piloting of the questionnaire. The reason for selecting Arab participants, including Kuwaitis, was because of the similarities in their background, experience and culture for the actual sample. Five of those students



were postgraduate students, who had previously worked as English Language teachers. Some of the participants in this trial answered the questionnaires electronically. The piloted final draft was also tried on five English language teachers in Kuwait before distributed to the actual sample. Some modifications were made to the questionnaires as a result of the pilot until it reached its final form. For example, the first part, relating to the background of the existing setting, was found to be very long and asked about issues that were not very important or relevant to the research questions. Therefore, the questions in this part were revised, rewritten and condensed into eight questions instead of 14. Many other questions were rewritten to be more obvious and clearer for teachers and to avoid different interpretations of the same question. The shapes of some categories of questions were completely replaced as they were expected to be problematic during the data analysis process. After completing the pilot phase, the researcher used his personal relation with some English language teachers working in government secondary schools to help him as coordinators. Each one of them was asked to be responsible for five participating schools. The researcher explained to them what to do in all the data collection stages, including an introductory explanation of the study for participants, the ethical issues and the distribution and collection of the questionnaires.

#### **4.2.1.3 Interviews:**

In this interpretive research, open interviews were used as a third method of data collection, which helped to uncover more in-depth information about ICT implementation in secondary schools in Kuwait.(Appendix 3) This information was explored through the experiences, thoughts, values and opinions of knowledgeable teachers, educators and policy makers in the area of research. Interviews helped to clarify the missing points from the first two data collection tools used in the study and elaborated on specific areas of research. The interviews used in this research were not

highly structured, with continuous closed ended questions, or unstructured, where the interviewee is given freedom to talk without any guidance. This technique was used to obtain in-depth information about the influential factors on ICT implementation in government secondary schools in Kuwait and offered the interviewer the chance to explore this issue with experienced educators in the field. The interview is a useful technique, which allows the conversation to flow when it deals with the core of the research issues and at the same time avoid straying from the topic. In these interviews, an interview guide with a list of, mostly open-ended, questions was used. The rationale of using interviews in this research, alongside the other methods, was the intention to investigate intensively the barriers that were slowing down the MoE plans for ICT implementation in government secondary schools. Interviewing the decision-makers in the MoE and other educators was a useful technique to gain a better understanding of the situation under research through their experience in the field and the detailed information they hold (Cohen et al., 2003; Kvale, 2009).

**Purpose:**

After conducting all the research instruments including questionnaire 1, the documentary research and the interviews used in the pilot part of the study, and questionnaire 2 in this part of the research, the plan was to finish the research with number of interviews with teachers and educators in the Ministry of Education and members of the Kuwaiti National Assembly. The rationale behind these interviews was to have an in-depth investigation into barriers to ICT implementation in government secondary schools with these key participants, being educators and decision-makers. Discussing the findings of other instruments of this research with those experienced participants was a helpful technique that provided a better understanding of the situation of this research and suggested important explanations and solutions.

**Design:**

Designing semi-structured and open interviews is not an easy task and needs to be carried out with a great deal of consciousness. To ensure that your interview is carried out smoothly and to maintain reliable information coming from your interviewees, you should create relaxed and comfortable conversations. In order to perform a comfortable but useful interview for this research, questions were planned and arranged carefully and interviewees were provided with a clear idea of the purpose of the interview before it started. Background questions like job title, responsibilities and organisations belonged to were set at the beginning of the interview and a friendly and comfortable environment was maintained during the interview. Questions were mostly open-ended questions, expressed using simple language and explained clearly to the participants; silence was sometimes used to encourage participants to continue their flow of speech without any interruption (Kvale, 2009). Interruption was avoided, especially when participants talked about important issues related to our study, but without leaving them to go on for too long in their answers. Asking vague, sensitive, leading and 'Yes/No' questions were avoided during interviews. At the end of each interview, the recorder was checked to make sure that the entire interview was recorded and no technical problems had happened during the interview (Cohen et al., 2003)

**Implementation:**

Interviews in this research were prepared to last for 45-60 minutes and, for ethical considerations, all interviews were preceded with an introductory letter from the researcher explaining the aim of the interview, the topic, the time it would take, the maintenance of confidentiality and their right to withdraw from the interview at any time (see Appendices 2 and 3). In the piloting exploratory part of the research, two

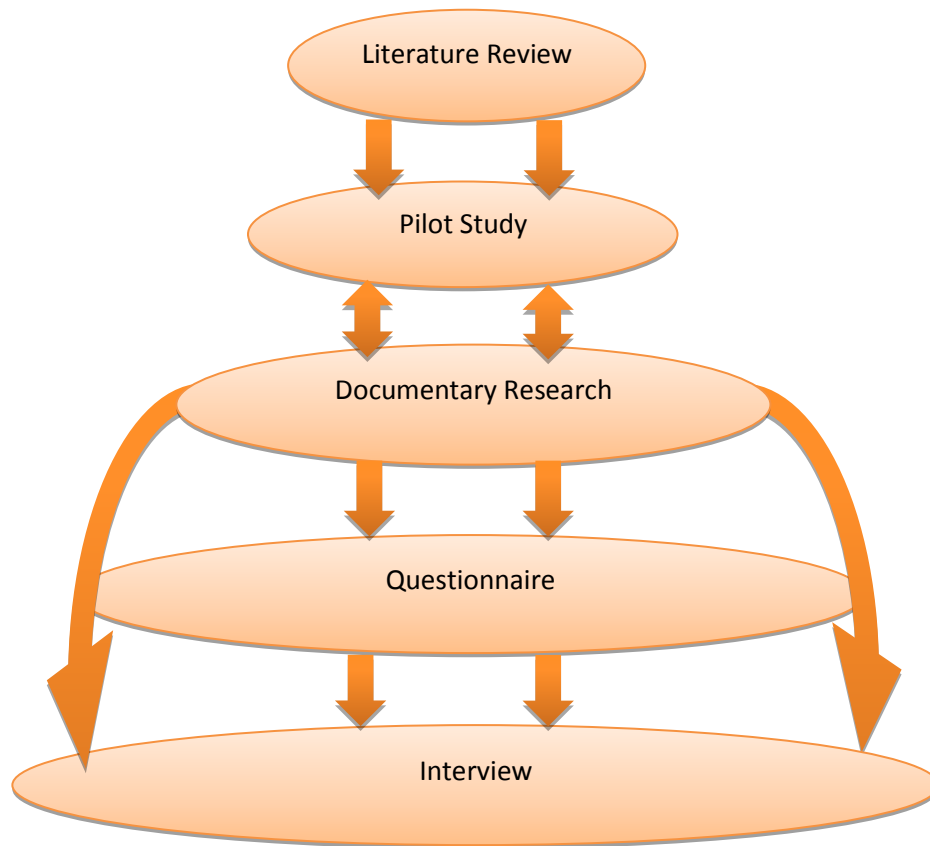
students and four teachers were interviewed. In this main part of the research, it was decided to interview 10 English language teachers, 3 key educators from the MoE and two members of the Educational Committee in the Kuwait National Assembly. The 10 English Language teachers were a mix of new and experienced teachers, who had already participated in the teachers' questionnaire and had accepted the invitation to interview. It was intended to have viewpoints both from teachers who implement ICT and from teachers who do not, to avoid bias, and four of the ten teachers were implementing ICT in their teaching. Details about the participants in the interviews are presented below in the "sampling" section. Participants from the MoE and the Educational Committee in the Kuwait National Assembly are identified for interview by nature of their key positions and their close relationships to education development plans and decision-making processes in the MoE and the National Assembly. The initial idea of this part of the study was to implement a semi-structured type of interview; however, in the light of the information collected from the teachers' questionnaire, the idea was changed to use an open type of interview for this part of the research. This decision was made to provide participants with enough room to go deeper in their analysis of the barriers to ICT implementation and to express their opinions about different ICT issues freely and without any obstruction. The implementation of this type of interview showed that the researcher needed to try, gently, without hurting or displeasing the interviewee, not to lose control and the leadership of the interview, when the interviewee, unconsciously, slipped into irrelevant areas during the meeting (Kvale, 2009).

The analysis of the teachers' questionnaire showed that non-Kuwaiti teachers avoided giving their opinions about socio-political issues related to ICT implementation and preferred to select the neutral choice among the answers for political questions. Because of the culture of many Arab teachers working in Kuwait, and because of the

limited democracy and freedom available in their home countries, they preferred not to declare political opinions, as they were concerned that their opinions on such issues might harm their careers in Kuwait. This fact guided the researcher to limit the number of the non-Kuwaiti interviewees for this part of the research and to avoid sensitive political questions during the interview. It also led to putting the necessary questions, addressing the policy of the MoE and other politically related issues, in an indirect and gentle way.

This framework for interviewing would offer chances to reveal examples of comments regarding influential factors on ICT implementation in government secondary schools, including the schools and teachers' readiness, teachers' views, policies, main barriers to ICT and requirements for better ICT implementation. A high quality tape recorder and interview notes were used during the interviews. After finishing all the interviews, transcripts were made of all the recordings.

In order to understand the purpose and design of each method implemented in the research, it might be useful to show how they are based on literature review and findings of the pilot study and how they are related to and influential on each other. Figure 9 provides comprehensive clarification through use of a diagram. This diagram illustrates, for example, how literature review and pilot study guided this research and frame the research main areas. It also illustrates how documentary research was used during the preparation of all instruments used in the pilot study and the main study. Similarly, it illustrates how the teachers' questionnaire is based on information from literature review, documentary research and findings of the pilot study. Finally, the diagram shows the importance of the final interviews with teachers and educators and how they were based on literature review, findings of pilot study, document research and findings of teachers' questionnaire.



**Figure 9: Relationship among data collection tools during the study progress**

#### **4.3 The Data Collection Process:**

This section deals with the sampling, data collection and analysis process, ethical issues and limitations. It clarifies the rationale of choosing the samples investigated in all stages of this research and the relationship between the sample and the methods of investigation used. This section also explains the data collection process for each research instrument used in the pilot study and the main study. The ethical issues considerations related to the questionnaires and interviews are also addressed in this section. It also explains the limitations of time and resources in relation to each instrument implemented in this study.

Prior to the data collection process, the researcher obtained a supporting letter from the Under-Secretary of the MoE to the general managers of all educational areas in Kuwait, and other related administrations in the MoE, informing them about the objectives of this study and asking for their cooperation and support (see Appendix 1). The managers of the educational areas, in turn, sent instructions to all participating schools in this research, asking them to support the researcher in all his research activities, including distributing questionnaires, providing documents and undertaking interviews. Coordinators were allocated from English departments in each school to help the main coordinator assigned by the researcher to administer the questionnaires. Every coordinator assigned by the researcher supervised ten schools and was intensively trained to maintain ethical considerations, inclusion and exclusion criteria, tracking distributed copies of the questionnaire and questionnaire collection. The researcher supervised and managed the data collected via the questionnaires by personally attending some schools and by continuous communication with the assigned male and female coordinators over the telephone. The Coordinator's role was limited to questionnaires only, while interviews and document selection and collection were directly undertaken by the researcher.

#### **4.3.1 Sampling:**

In relation to the questionnaire sample, simple random sampling was chosen because this kind of sampling is suitable for large samples that are representative of the original population under study (Cohen et al., 2003). To ensure that a random sample was obtained and that all participants had an equal chance of being selected for the first questionnaire, implemented in the exploratory part of the study, students were chosen from class lists and every third person on the list was invited to participate in the study. At the preparation stage of the pilot study, the researcher was planning to distribute the questionnaire among a greater number of students. However, it was

decided that 50 participants in the questionnaire, besides the documentary research and the interviews with some students and the English Language teachers, would be enough to offer a good amount of information about current ICT implementation and would answer the related questions for this part of the research. Moreover, the main part of the research, addressed to a large number of teachers in government secondary schools through questionnaires and interviewing a number of teachers and key educators in the MoE and the National Assembly, would provide a reasonable amount of data that could be used to interpret barriers to ICT implementation in government secondary schools in Kuwait.

The secondary schools that participated in responding to the teachers' questionnaire, implemented in the main study, were randomly selected according to their geographical distribution in all educational areas in Kuwait. As the average number of English Language teachers in secondary schools is around eight teachers per school, the researcher had to cover a large number of secondary schools all around Kuwait (25 schools for boys and 25 schools for girls) to distribute the second questionnaire to a good number of teachers. Of the 400 questionnaire papers distributed among the teachers, around 342 papers were returned and 306 were found valuable for analysis, after excluding non-valid papers. This random sampling technique was chosen because it is suitable for large samples that are representative of the population under research (Cohen et al., 2003)

In relation to the qualitative side of this research, accomplished through interviews, a range of different sampling techniques are available for qualitative researchers, including convenience sampling, purposive sampling, “snowballing” and theoretical sampling (Cohen et al., 2003; Creswell, 2003). The students, teachers and educators interviewed in this study were selected using a purposive sampling technique. At the start of designing the tools for this study, the researcher did not plan to undertake



student interviews, expecting that the questionnaire would cover all the information needed from the students. However, after starting analysis of the questionnaires, it was decided to back up the results of the students' questionnaire with a semi-structured interview with two students. One of the students was a regular user of ICT in his English Language learning and the other student did not use ICT for English Language learning. In this exploratory part of the study, the researcher addressed teachers through semi-structured interviews with four teachers, to explore their experience in this field, in order to understand their current ICT implementation. Two of the teachers were implementing ICT and the other two were not. It was also intended to explore their views about the limitations of employing teachers' and students' experience in setting up ICT through personal use of computers and the internet as useful for implementation in English Language classes in Kuwaiti Secondary schools. These teachers were interviewed to explore the areas of the ICT that could support English Language teaching and learning, as well as to investigate perceptions of the skills of English Language learning that could be supported by using the internet.

A purposive sampling technique was also used to choose 15 teachers and educators from different schools, key departments in the MoE and the Educational Committee in the Kuwaiti National Assembly to participate in the interviews conducted in this main part of the study. The purposive technique increases the diversity of the sample and allows the researcher to investigate a variety of perceptions. Participants in these interviews were selected according to specific purposes. Four teachers were selected as they were qualified, had a strong belief in ICT implementation and using ICT in their teaching. Six teachers were selected because they were qualified but had not implemented ICT in their teaching. Three key educators were selected as they were working in key positions, strongly related to ICT implementation decision-making, in

the MoE. Two participants were members of the Educational Committee in the Kuwaiti National Assembly and were selected because of their coherent relationship with the education development plans in Kuwait, through their positions as members of the Educational Committee (see Table 4).

**Table 4: Participants in interviews for the second part of the study**

<b>No.</b>	<b>Interviewee code</b>	<b>Job Title</b>	<b>Place of work</b>
1	TU.1	English Language Teacher Using ICT	Government secondary school
2	TU.2	English Language Teacher Using ICT	Government secondary school
3	TU.3	English Language Teacher Using ICT	Government secondary school
4	TU.4	English Language Teacher Using ICT	Government secondary school
5	TN.1	English Language Teacher Not-Using ICT	Government secondary school
6	TN.2	English Language Teacher Not-Using ICT	Government secondary school
7	TN.3	English Language Teacher Not-Using ICT	Government secondary school
8	TN.4	English Language Teacher Not-Using ICT	Government secondary school
9	TN.5	English Language Teacher Not-Using ICT	Government secondary school
10	TN.6	English Language Teacher Not-Using ICT	Government secondary school
11	ME.1	Consultant of General Under-Secretary of MoE	Ministry of Education
12	ME.2	Manager of Administration of Planning.	Ministry of Education
13	ME.3	Manager of Administration of Information Systems	Ministry of Education
14	MN.1	Member of National Assembly	National Assembly, Committee of Educational Affairs.
15	MN.2	Member of National Assembly	National Assembly, Committee of Educational Affairs.

### **4.3.2 Data Analysis Procedures:**

The data analysis process is a very important stage of the research as it transforms the raw data, collected by the data collection instruments, into meaningful information that should answer the research questions. The following sections summarise the data analysis procedures implemented to analyse the data gathered in this research through the tools implemented.

#### **Documentary Analysis:**

The documentary analysis was a very important tool that helped the researcher to benefit from the documents examined to gain a better understanding of the situation. The majority of the documents are official and authentic documents from schools, the MoE and Teacher Training Colleges. Each document was read carefully and notes were made of important points. All the documents were copied for continuous revision and particular points and key phrases that generated meaningful data were highlighted and subsequently referenced (MacCulloch, 2004). Although the main purpose of the documentary evidence is described earlier in this chapter, a content analysis is undertaken in the next chapter.

All documents were found to be valuable and useful and were returned to frequently, as the understanding of the situation developed continuously, and so were not overlooked or misused. The majority of the documents were used prior to and after most of the research instruments. They were used mainly before the interviews so that some of the issues stated in those documents could be discussed and clarified during interviews, where explanation or further details were presented. They were also used after the implementation of some of the other instruments in order to cross-reference important issues raised by participants the questionnaires and interviews.

### **Questionnaire Analysis:**

In interpretive research, questionnaire is a useful and affordable technique for quantitative data collection and analysis from a large number of participants and is mostly applicable in surveys of quantitative and social research (Cohen et al., 2003; Creswell, 2003). Questionnaire is considered a viable and inexpensive method to reach enough numbers of participants to allow statistical analysis of the results. The administration cost of each person participating in a questionnaire is very low and it can be distributed and collected back in few minutes. One of the major advantages of a questionnaire is its corroboration with findings from other information collection resources such as interviews, observations or documentary research (Cohen et al., 2003). The questionnaire implemented in this study was aimed at obtaining generalizable results from a large population of English language teachers in government secondary schools in Kuwait. This questionnaire looked more deeply into the reasons and factors hindering or influencing ICT implementation.

Before the process of analysing teachers' questionnaire, the returned questionnaires were checked for completion to make sure that all the questions had been answered and that the participant had correctly understood the questions. Answers that were irrelevant to the question were neglected and considered void and, in cases where many answers were irrelevant, the paper was excluded. The next step was coding the responses and deciding on the procedures to be taken for dealing with missing or contradicting values. After finalising the coding, the data was entered into the computer using the Statistical Package for Social Science Software (SPSS) to derive descriptive and analytical statistical information. The Statistical Consulting Unit in the College of Business Administration at Kuwait University was consulted to guide and assist in executing this crucial part of the study. This statistical package is a very useful and comprehensive one, which enables the researcher, with assistance of the

Statistical Consulting Unit in Kuwait University, to analyse data using various statistical tests to obtain an overview of teachers' opinions about the research questions.

Analysis of this questionnaire used the following statistical techniques:

Firstly, it used descriptive statistics that summarizing and describing, numerically, the main features of collected data. This technique was achieved using frequency and percentage, and presented in tables and diagrams. This technique was very useful to describe participants' views and trends towards the research areas, particularly, participants views towards ICT implementation, conditions of ICT implementation and impact of sociocultural and political dimensions of ICT implementation. This analysis was found manageable and easy to be achieved. Secondly, inferential statistics were executed to handle deeper analysis related to other important aspects of the research where parametric statistical tests were used. Chi-square was used in order to see if there were differences between respondents who have different demographic characteristics. A one-sample Kolmogorov-Smirnov Test was also conducted to test the validity of the normality assumption of the three main dimensions; teachers' views regarding ICT, current conditions of ICT implementation and sociocultural and political dimension. The Kolmogorov-Smirnov test for normality was employed to check whether the three major research areas are normally distributed in order to apply the appropriate statistic test. However, the outcome revealed that none of the three major research variables exhibits normal behaviour. Therefore, in subsequent analysis, non-parametric statistical analysis was used to make some conclusions regarding the research questions. Due to the lack of normality, non-parametric methods of inference was utilised to test whether significant differences exist between different demographic levels for each of the three major issues. In the case of two groups, the Mann Whitney test for two

independent groups was employed. Any case with more than two independent groups was assessed by the Kruskal-Wallis test.

On the other hand, there was one open-ended question in the questionnaire, which required another data analysis approach, such as the one that was implemented for interviews. Analysis of the open question was executed by recording responses and categorizing similar ones together. The exact wording of the responses was not considered but the general meaning. For example, “no training ICT courses for teachers”, “ICDL is not enough”, and “teachers need training” were all categorized under “Lack of training”. Performing counts and ranking responses according to the most mentioned followed the categorization's step.

### **Interview Analysis:**

Interview analysis relies on the awareness of the researcher in being prepared for interview analysis before, during and after doing the interviews (Creswell, 2003; Kvale, 2009). In order to describe the meanings expressed and constructed by the interviewees, all interviews were transcribed and the transcriptions were coded and categorised. This part of the analysis was mainly based on the ‘constant comparison’ method, used in the grounded theory principles developed by Glaser and Strauss (Glaser and Strauss, 1967). The method is based on the repeated trials in order to understand "What is going on?" in the situation studied and "What is the main problem of the participants" and "How do they try to solve it?" Glaser and Strauss (1967, p. 23) stated that the researcher generates conceptual meaningful categories from the evidence/participants and then the participants are used to illustrate the concept. After comparing incidents applicable to each category, those categories are integrated with their properties. It is very important to identify the core variable, which explains most of the participants’ main concerns, in order to interpret what is

going on. Grounded Theory is a general multivariate method that can use any kind of data during the course of research, although its popularity is with qualitative data. Although findings from Grounded Theory are not statistically significant possibilities, they are considered as an integrated set of conceptual hypotheses developed from empirical data (Glaser, 1998).

There are "*probably as many versions of grounded theory as there were grounded theorists*" (Dey 1999: 2), but the analysis implemented here is mainly following Glaser's version of grounded theory. The objectives of this study are looking for deep information from expert participants about barriers of ICT implementation in secondary schools and deep analysis is needed. Before presenting the procedures implemented for interview analysis, it is important to clarify that theoretical sensitivity in grounded theory is considered even before deciding the type of interview for this research. At the planning stage of this research, it was planned to implement a semi-structure interview, however it was decided to use open interview to give the expert participants the chance to give all their knowledge about the research problem freely. Open interview helped to avoid impact of the researcher's experience in the context, literature and prior findings of other research tools on interviewees' responses about the areas under research. It was considered to use literature and prior knowledge and experience of the researcher to inform the development of the categories but they are not forced to fit the literature or create categories. Literature can be used as 'data' and constantly compared with the emerging categories to be integrated in the theory (Glaser 1992).

The analysis process of interviews achieved in this study started from the pre-test of the interview guide and the first two interview transcripts were analysed by the researcher and by another expert to confirm that the two analyses were giving the same outcomes and understanding (Silverman, 2001). After this stage, almost every

interview was transcript and initially analysed the second day to be supportive and constructive to the next interviews. Full transcripts of all interviews were prepared revised and compared with the recordings. First of all responses were put in another sheet and put against research questions. Important sentences that represented in the text, and related to a particular general or core issues in the conversation, were coded manually using a highlighting marker and notes in the margins of the hard copy of the transcripts. A line to line open coding was used to produce initial information and concepts from interviews. In this stage, the meanings of long, transcribed statements were reduced to a few simple categories, condensed into briefer statements and prepared for the interpretation stage. Theoretical coding is followed to relate similar and related codes with each other. The general meaning of responses was considered, rather the exact wording used by interviewees. For example, "no internet in classrooms", "teachers have no internet", and "school has no internet" were all categorised under "Lack of Internet Access". The constant comparative method was helpful in this stage through looking to different and similar codes to know what is happening and under what conditions does it happen in specific areas of the research. This comparison kept the codes active during the analysis process, (Glaser 1978). Memos about important ideas, themes, sub-themes and hypotheses were written during this process and based on those memos, the final analysis report is written. (See extract from interview analysis below)



## Readiness for ICT Implementation

### Sub- theme 1-1: Infrastructure

How would you evaluate the readiness of schools for ICT in relation to infrastructure?

Topic	Responses	Repetition
Hardware & software	• Computers are available for teachers in all departments	11
	• Main software packages (Office, SPSS, Photoshop.....) are available in all schools	12
	• At least one presentation room is available in each school	8
	• Schools have at least, one computer room for students (mainly used by IT teachers)	12
	• Limited educational software	6
	• software not updated regularly	7
	• No computers in classrooms	10
Networks	• New buildings prepared with network installations	3
	• Old buildings gradually prepared	4
	• Few schools have networks	4
	• Very limited usage of networks	7
	• Networks only connected with students affairs department to register students' grades	7
	• Schools networks are not yet connected with each other or with the MoE network	9
Connectivity	• No Internet access in classes	10
	• Limited internet access in educational departments	7
	• Drop of cost of wireless connectivity in 2008/2009 encouraged some teachers to use their personal laptops in schools	7
	• Some schools started using wireless Internet	3
Technical support	• Very limited technical support available in school	9
	• Technical support from the educational area takes a very long time	5
	• Sometimes teachers and students solve some technical problems themselves	4

During the interview analysis, it happened that important information found in a previous interview is discussed with the next interviewee by the end of his interview. In addition, some interviewees were contacted again after the interview to double check or to have a clarification about important views or ideas. The views explored were cross-indexed and compared with the rest of the data and interviews to identify explicit or hidden similarities. This comparison covered data from the interviews and

even the main findings from the questionnaire and documents. The core category generated by interviewees was mainly spotting various important difficulties facing ICT implementations and most of the categories are directly or indirectly related to it.

The constant comparison technique enabled the researcher to compare emerging codes by participants like the need for a period of time for successful ICT implementation, the need for inclusion of ICT in curriculum and the Kuwaiti educational context problems such as teachers' assessment and corruption in spending on education with other codes like MoE and schools policy and create a conceptual link between them. Afterwards, the codes were categorised into main categories, representing the main thematic areas of the research. They included main areas that already spotted from literature and pilot study but many important and crucial issues related to sociocultural and political aspects of the Kuwaiti contexts were categorised. In addition, fine details about main difficulties facing ICT implementation in government secondary schools were repeatedly reported by participants. Additionally the main requirements for better ICT implementation are spotted and presented in details by interviewees, (see Appendix 5). The researcher found constant comparison in Grounded Theory a useful method to analyse qualitative inquiry, where open and creative understanding and interpretation of the situation is needed. The preparation, execution and analysis process of those interviews until writing of the final analysis report took a huge efforts and time from the researcher but provided an outstanding data that gave a clear picture of the barriers facing ICT implementation in the Kuwaiti context.

## **Validity and Reliability**

In this research, issues related to validity and reliability were comprehensively considered in all instruments used for the study: documents, questionnaires and interviews.

### **Documents:**

Document assessment is a crucial stage before considering any document as a research reference. Authenticity, credibility, meaning and being representative are four important aspects that need to be evaluated during assessment of documents. There are different guidelines for assessing the authenticity of a document and, as we mostly deal with government documents in this research, the authenticity of the research documents is maintained. Credibility is also sustained in this research as most of the documents investigated are official documents, their quality is high and they are understandable and free of errors. The content, the issuing authority or person relating to a document and the date of issue are very important aspects to be considered when selecting documents for research (MacCulloch, 2004). To understand a document and its context we need to conceptualise it and frame the related research questions. The documents in this research were read in a critical approach that formulates documents and locates them within the wider social and political context of the whole situation. The social and surrounding factors are examined and the findings in the documentary research are correlated with the findings of other research techniques used in the study.

### **Questionnaire:**

The reliability of the questionnaire can be measured through several techniques that should give us the same results if we use the same questionnaire repeatedly with the same group of participants. According to Cohen et al. (2003) if research instruments

were reliable, they will give similar results if they were implemented on similar group of participants in similar context. In order to measure questionnaire reliability, statisticians had devised some tests of reliability that should be applied to questionnaires before their real and final practice for data collection. One of the techniques of reliability measurement for questionnaires is the 'test-retest' reliability technique, which means conducting the same surveys with the same group of people but at different times. The reliability will be greater in cases where there is a closer result and vice versa. Another technique for reliability measurement of questionnaires is the 'Split-half' technique in which all items in a questionnaire are divided randomly into two sets in order to measure their reliability. In this research, Cronbach's Alpha was used to test the reliability of the questionnaire applied for data collection. It is a well-known technique for reliability measurement, which is used by the majority of novice researchers, because of its practicality and simplicity. It is a measure of how well each item in a scale correlates with the remaining items to measure consistency among individual items in a scale. The alpha coefficient is a useful measure of internal consistency suitable for multiple choice formats and Likert-type scales, such as those used in this study. The Cronbach's Alpha of a scale *"should be above 0.7 to be an acceptable reliability coefficient"* according to Pallant (2001, p. 85).

This questionnaire, used for teachers in this study, was prepared by the researcher and revised by an expert from Kuwait University. Some of the questions were excluded and some were modified through that revision. In addition, questionnaire was revised by two experts from the University of Exeter who added valuable amendments to the way of presenting some questions before the piloting stage. Questionnaire was piloted after the approval of the School of Education at the University of Exeter (Appendix 6) had been obtained. Cronbach's Alpha was used after the piloting stage as a measure

of internal-consistency through SPSS statistical package. In the light of piloting the questionnaire, some changes were made to the wording and shape of some questions in order to make them more obvious. In addition, measuring reliability of the piloting stage of teachers' questionnaire through Cronbach's Alpha led to make some changes to the three main scales in order to develop and increase their reliability in the main study. The changes included adding one item to the Influential factors Scale, adding one item to Policy Scale, omitting two from the Views Scale, and modifying three on the Views Scale and four on the Policy scale. In the actual study, the alpha coefficients for the three scales were as the following: views towards ICT = 0.87, main influential factors on ICT = 0.85, impact of policy of MoE and other socio-political factors = 0.86. Cronbach's Alphas obtained from the pilot study and the actual study are reported in Table 5.

**Table 5: Summary of reliability analysis of main scales of the questionnaire**

Scale	No. of Main Study Items	Cronbach's Alpha for piloting stage	Cronbach's Alpha of actual study
		Pilot (n items = 60) Pilot (n of valid cases = 10)	Actual Study (n items = 60) Pilot (n of valid cases = 249)
Views towards ICT	10	0.77	0.87
Main influential factors on ICT	11	0.82	0.85
Impact of policy of MoE and other socio-political factors	11	0.74	0.86

The validity of a questionnaire depends on its reliability and there are different basic approaches to measure the validity of questionnaires. In order to measure the validity of the questionnaires used in this study, the 'construct validity approach' and the

'content validity approach' were used. The construct validity approach was used where validity came from the correlation between the questionnaires and other instruments used in the research, namely documentary research and semi-structured and open interviews that measured the same sample. The second validity approach used to measure the validity of the questionnaires is the content validity approach, where it was checked that the content of the questionnaire matches the situation under study and that the content is testing what it was intended to test (Cohen et al., 2003). First drafts of the questionnaires were piloted and a number of corrections were made for many questions in order to make them clearer and more understandable. Final drafts were handed over to two experts from Exeter University and one expert in Kuwait University for final fine amendments.

### **Interviews:**

Reliability of the interviews implemented in this study was maintained through pre-testing the interview schedule/guide to make sure that all participants would understand the questions without any ambiguity. The first two interview transcripts were analysed by the researcher and by another expert to confirm that the two analyses were giving the same outcomes and understanding (Silverman, 2001). Inter-rater reliability is the extent to which the way information is being collected is in a consistent manner (Keyton, et al., 2004). Agreement of interviewees' responses about similar researched themes has been coded and checked to make sure that interviewees had the same understanding of the questions and the themes under investigation. Findings of the analysis of the first two interviews confirmed the trustworthiness of the instrument and indicated the consistency of the responses.

Validity of interviews was maintained by performing the 'constant comparative' technique, which is considered as one of the famous methods for evaluating data in

order to ensure valid findings (Silverman, 2001). This would confirm the trustfulness of the research and indicated that it represented the actual social phenomena. As mentioned earlier, an analysis of two interviews transcripts was performed to check the reliability and validity of the instrument, where themes that emerged during the interviews were searched in different places in the same interview or in transcripts from other interviewees.

### **Ethical Issues:**

The most crucial issue, in this regard, is that the researcher has to ensure that no harm will be caused to the participants in his research. Ethical issues in educational research are playing a considerable role in the field of research and most research bodies and universities in Britain and the United States are paying a great deal of attention to this important element of educational research. British Educational Research Association (BERA) and American Educational Research Association (AERA) have set codes of enquiry principles and rules that should ethically guide the research. Pring (2000, p. 143) claimed, "*there are different kinds of moral considerations which enter into deliberations about the conduct of research*". The ethical stance of this research is clearly articulated and demonstrated and issues related to the participants are considered by a suitable ethical framework. The ethical framework provides guidance with regard to consent, privacy and confidentiality. Participants' validation and the participants' right to gain from the research process have been considered as well.

In this study, all of the participants provided written consent to participating in the questionnaire or to being interviewed. In addition, permission to meet the participants in their places of work was issued by the Under-Secretary of the Ministry of Education (see Appendix 1). The necessary procedures to protect participants' anonymity and confidentiality were considered. The anonymity and confidentiality of

participants of this study was maintained by using numbers and codes instead of the real names of the participants.

The socio-political dimension of this research has also been taken into consideration as it deals with different factors in society (around the research), including local institutions, national funding bodies and worldwide factors and values that have shared influences with the research. The impact of the research on the deeper layers its surrounding environment and the people in that environment is a crucial issue that I have done my best to consider. The socio-political dimension of educational research has been divided into macro and micro-political senses as per Cohen et al. (2003). The macro-political sense is mostly related to the funding arrangements of the research and its consequences on decision-making, which, it is expected, will not have a great influence in the case of this research, where the researcher is independent and has an adequate area of decision-making.

On the other hand, the micro-political sense is relatively attached to the people in the institutions (teachers-students-educators) related to the research, especially if the research is an evaluative one, where critical issues such as prestige, status, promotion, credibility or funding might be influenced (Morrison, 1993, cited in Cohen et al., 2003). I may have anticipated sensitivity with some issues in this research with some senior teachers and educators who are lacking in ICT skills and continue to adopt traditional educational approaches during their long teaching experience, especially those who face difficulties in coping with the fast invasion of technology in all aspects of our lives. This critical dimension was considered by avoiding direct questions about interviewees' abilities and competences in ICT implementation.



#### **4.4 Summary:**

This chapter has presented an account of the research's theoretical framework, the approach and the plan of the study. It has also presented a detailed account of how the research plan was carried out and progressed, including a description of the research's two phases: the exploratory piloting phase, followed by the main deep investigation phase. Methodology, methods and research instruments have also been explained. This includes the design and implementation of research's instruments. This chapter has also presented the data collection process, including sampling and the instrument analysis procedures. Finally, it presented validity and reliability and the ethical issues related to the study. The next chapter focuses on analysis of the findings of the data gathered from the first exploratory part of the study.

# **Chapter Five**

**(Analysis and Findings of the Study)**

## **Introduction**

The use and implementation of Information and Communication Technology in education was adopted several years ago by the Ministry of Education in Kuwait as one of the main objectives of the strategic plan for developing education. As previously indicated, the main aim of this research is to explore barriers to ICT implementation in government secondary schools in Kuwait. In particular, the focus is on the implementation of ICT in English language classes. After the exploration of the research area through the pilot study, it was decided to undertake a deeper investigation to the situation with a large number of English language teachers and expert educators. This chapter presents findings and data analysis of information collected and investigated through documentary research, questionnaire and interview. However, before going through this analysis, it is very important to present a summary of the pilot exploration study. The pilot study provided a clear picture of the current situation of the research. In addition, it confirmed that English language teachers and expert educators in MoE are the targeted population of this study, as they are the main players in the ICT implementation process. Therefore, it will be useful to summarise and present the pilot study in this chapter.

### **5.1 Summary of Pilot Study**

The pilot study aimed to explore the area of research through a fact finding exploration of current ICT implementation. In this exploration, important areas of research such as ICT policies, schools readiness, students and teachers ICT competences and current difficulties facing ICT implementation were explored.

#### **5.1.1 Objectives of Pilot Study**

- To explore actions taken by MoE regarding preparation for ICT implementation according to SPE released in 2003.

- To investigate current readiness of students, teachers, curriculum and schools infrastructure for ICT implementation.
- To evaluate any existing ICT implementation in government secondary schools.
- To explore current difficulties regarding ICT implementation in government secondary schools.

### **5.1.2 Methodology of Pilot Study**

After the review of literature, main areas of research were portrayed and the guide lines of the needed investigation and methodology were determined. The researcher decided to review and search some important related documents to find out many important issues related to ICT policies and implementation. Additionally, a questionnaire was used among 50 secondary school students to answer most of the questions derived from the objectives of this part of the research. Although investigating ICT implementation in private secondary schools is not an interest area of this research, the researcher preferred to include students from those schools in the questionnaire. The reason for this inclusion was to have an idea if the independent policy and the freedom in management and decision making that private sector schools have affect ICT implementation. Finally interviews with 2 students and 4 English language teachers from government secondary schools took place for more exploration and to find facts about current ICT implementation.

### **5.1.3 Findings of Pilot Study**

Through the information gathered by the questionnaire, documentary research and the interviews implemented in the pilot study, sound data and findings have been discovered. In light of the findings from this part of the research, it can be concluded that current personal and educational usage of ICT by teachers and students may, to a

limited extent, support ICT implementation in English language classes in secondary schools in Kuwait. Teachers' and students' personal and educational ICT competencies and the current ICT context in Kuwait may offer a good base to the MoE and school management in preparing for ICT implementation in English language classes. The recent widespread use of new technologies among individuals in the Kuwaiti community, including students and teachers, could support ICT implementation in secondary schools and reduce the hindrances previously identified by researchers a few years ago. Nevertheless, the questionnaire, interviews and documentary evidence has shown that many issues like technical support, financial resources and some teachers' abilities and enthusiasm are major factors that are crucial when considering successful ICT implementation in government secondary schools.

This part of the research highlighted the current personal and educational usage of ICT by teachers and students in government secondary schools in Kuwait. In addition, it flagged up the importance of making use of their personal and educational competencies when implementing MoE strategic plans for ICT and taking into account the spread of new technologies among individuals in the Kuwaiti community. At the same time, it has highlighted important areas for investigation in the main phase of the research, which benefited from the findings of this part. This enabled the researcher to gather in-depth information from teachers and educators about the argument behind this research.

The analysis of the findings of this part of the research through the triangulation of data gathered from all research methods applied in this part of the study led the researcher to ask more open-ended questions about conditions of ICT implementation in government secondary schools in Kuwait. The findings of this exploration part of the study have indicated that the researcher must modify some of the questions to be

asked of teachers and educators in the main part of the study. Moreover, in light of the findings of this part of the study, new questions were also added to the questionnaire and the interviews planned for the main study of the research in order to investigate the research area more thoroughly. However, the pilot study has demonstrated that ICT has entered the daily lives of people in Kuwait and that students' and teachers' current personal and educational use of ICT could support ICT implementation in government secondary schools. The issue of ICT implementation for educational purposes and for English language teaching in Kuwait seems to be related to educational institutions and teachers more than the students. Al Othman (2003) explains that,

*“Educators and officials in Kuwait, as well as in many other countries with educational systems that use conservative, old-school teaching and learning methods or strategies that emphasize teacher-centred classrooms, must take the move, immediately, to integrate CALL or CAL, in general, in their classrooms. This will, definitely, help officials change the educational systems to suitable ones that can survive the current universal change.”*

#### **5.1.4 Importance of Pilot Study**

This part of the study has revealed that context of ICT in 2007 and 2008 is very different from the context investigated by other researchers, such as Cuban (2001), a few years previously. It showed that ICT has become more widely spread and is used outside of schools and among different community sectors, including secondary schools students and teachers. Findings have indicated that the ICT context in Kuwait at this point in time has developed and become more suitable for ICT implementation than a few years ago. The exploratory survey and interviews used in the pilot study have contributed to answering important research questions and preparing the ground for the main part of the study. Firstly, it has highlighted different issues related to

participants' ICT competencies, infrastructure, training, policies and many other difficulties facing students and teachers when using ICT for personal or educational purposes. The survey and interviews used in this part of the study revealed that students and teachers are using new technologies, such as computers and the internet, for various personal needs, such as entertainment, communication and as a source of information. This has helped to save time in investigating whether students' and teachers' ICT competencies are among the barriers to ICT implementation and to determine the focus of the main part of the research. It showed that government secondary school students' and teachers' basic competencies in the use of ICT are adequate and did not form one of the hindrances to ICT implementation.

#### **5.1.5 Limitations of this Section of the Research**

In the preliminary stage of this study and specifically during the Literature Review, the researcher encountered a crucial obstacle. That fundamental obstacle was the lack of literature related to the usage of ICT in English language teaching in Arabian and Kuwaiti educational environments, although literature related to the usage of the Internet and other ICT features for general educational purposes is fairly extensive. Most of the related literature in Kuwait is theoretical, on a very limited scale and is not aimed at government secondary schools.

The practical side of this part of the research has proceeded smoothly in general and a reasonable amount of information has been gathered using the designed data collection instruments and through the available time and facilities. However, a considerable number of limitations have slowed the study's progress and prevent some more important data from being obtained to support the results. The main hindrance that faced this part of the study was the time factor, since the piloting part of the study took place during the last month of the educational year 2007/2008. In

this time period, both teachers and students are very busy and do not have much time spare. Most of the subjects are taught on a daily basis and teachers and students can hardly find time to eat or rest during the day. As the piloting part of the study was an exploration and the number of participants planned to be questioned and interviewed was not large, this limitation did not hinder the achievement of the objectives. On the other hand, the main part of the research has maintained coverage of all areas of investigations that might be missed during the piloting part of the study.



## **5.2 Findings of this Study**

### **5.2.1 Documentary Research**

Documentary research was a very important part of this study, although it was not initially included in the first proposal. Reading of literature related to strategic plans of the Ministry of Education in Kuwait and its ambitious intention to include ICT implementation in the Kuwaiti educational system instigated the documentary research in order to evaluate MoE practical enforcement of those plans. This research has also helped to generate diverse important information that has helped to revise the questions used in the questionnaires and interviews undertaken for both parts of this study. The number of documents related to ICT implementation in the educational system in Kuwait is huge; unfortunately, time limitations and the resources of this study limited the documentary research in this study to the most important documents that were accessible to the researcher. These documents were:

- ICDL Ministerial Resolution No 359/2002:
- The strategic plan of the Ministry of Education issued in June 2003
- The programme of English language students in the College of Education in Kuwait University for the academic year 1993/1994
- The programme of English language students in the College of Education in Kuwait University for the academic year 2007/2008
- The programme of English language students in the College of Basic Studies in The Public Authority of Applied Education for the academic year 2007/2008
- Reports on educational spending from 2000/2001 to 2007/2008

During this stage of the study, the researcher discovered a large number of documents that show the Ministry of Education's (MoE) strong intention to implement ICT in

education. Yet other documents show that ICT implementation and the MoE's other strategic plans are facing different types of difficulties and challenges. Those documents were mostly issued between the years 2000 and 2008 and deal with different educational issues related to ICT implementation such as strategic planning, teachers' ICT qualifications and training, equipment, curriculum etc. Investigated documents include ministerial resolutions, administrative declarations, school memos, questions from Kuwaiti National Assembly members and newspapers. This part of the study sheds light on the most important documents that are strongly relevant to questions of this research and will assist answers to the following research sub-questions:

- What policies and strategies adopted by the Ministry of Education towards using ICT in government secondary schools?
- What ministerial decisions and actions that have been taken and executed in relation to ICT implementation in terms of infrastructure, teachers and the curriculum in government secondary schools?
- What teachers training programmes are implemented in Teacher Training Colleges in Kuwait?
- What are the current major difficulties obstructing teachers from implementing ICT?

This limited instrument was found to be a very helpful tool that was used to connect the two parts of the study, although it was mainly used as an important source of information for this study. A collection of different authenticated documents from official Kuwaiti authorities such as schools, the Ministry of Education, Kuwait University, and the Public Authority of Applied education was useful in that it revealed very important data related to ICT implementation in secondary schools. Documents were a very helpful source of information that assisted in the exploration

of MoE policies and actions in relation to ICT implementation. In addition, they helped to formulate the final drafts of the questionnaires and interviews implemented in the pilot study and the main part of the research.

This section of findings presents the analysis of the main documents, providing very important information related to the main areas of the research. The important documents address some sub-questions of the study related to policies and the decision-making process in the MoE, teachers' preparation and qualification, ICT development and the main barriers to ICT implementation. Before going through the analysis of each one of those five important documents, Table 6 below briefly covers their content and key themes.

**Table 6: Content and Key themes of important documents**

<b>No</b>	<b>Title</b>	<b>Origin</b>	<b>Content</b>	<b>Key Theme</b>
<b>1</b>	Ministerial Resolution No 359/2002:	MoE	ICT implementation decisions	Decision Making
<b>2</b>	Strategic Plan of Education	MoE	Educational Plan	Planning
<b>3</b>	Programmes of English Language students in the College of Education in Kuwait University Academic years 1993/1994 + 2007/2008	Kuwait University	Modules for teachers' preparation	Teachers' preparation development, planning & decision making
<b>4</b>	The programme of English language students in the College of Basic Studies in The Public Authority of Applied Education for the academic year 2007/2008	PAAET	Modules for teachers' preparation	Teachers' preparation, planning & decision making
<b>5</b>	Reports on Educational Spending from 2000/2001 to 2007/2008	MoE	Spending Reports	Weak Management.

Although many official documents were explored and analysed during this stage of the study, the 5 documents stated in table 6 above are found the most important documents that are coherently relative to the research questions. In the following section, those five documents are presented through two levels of presentation. Firstly an introduction about each document is provided; secondly, the analysis of each document is presented and explained.

## **Document 1**

### **ICDL Ministerial Resolution No 359/2002**

This document is a primary document in the form of a ministerial resolution No. 359/2002, which was issued in 03/08/2002 by the Kuwaiti Ex-Minister of Education, Dr. Rasheed Al-Hamad. This resolution was preceded by different administrative resolutions relating to Information Communication Technology (ICT) implementation in the educational system in Kuwait since 1991. This resolution is considered to be the first ministerial resolution that obliges teachers, head teachers, mentors, general mentors, schools' vice principals and schools' principals to acquire an ICT qualification certificate that prepares them to implement new technology while practicing their occupations in schools. In addition, it was issued in the form of a ministerial resolution by the top management of the ministry and not in the form of an administrative resolution issued by managers of departments. This fact is an indication of the minister's intention to give this issue maximum attention.

## **Documentary analysis**

### **A. Content**

This document is an obligatory ministerial decree dated 03.08.2002 and directs all educational staff, teachers, mentors and school principals in all educational fields to

obtain the International Computer Driving License (ICDL) as a compulsory ICT qualification for future promotion. This resolution obliges staff members working in the field of computer subjects to achieve this certificate by educational year 2003/2004 and staff members working in all other subjects by educational year 2007/2008. The second clause of this resolution directs the Planning and Information Sector in the Ministry of Education to introduce the ICDL certificate to the targeted staff groups. Each staff member who acquires the ICDL certificate will receive 125 Kuwaiti Dinars (£250) as a study allowance after completing the course and submitting a copy of the certificate. Clause number four of this resolution confirms that acquisition of this certificate will be a mandatory condition for promotion by educational year 2007/2008 for all staff members working in the field of computers. Starting from educational year 2004/2005, all applicants for employment in the Ministry of Education as computer teachers should already possess the ICDL certificate, regardless of their university qualification. From educational year 2006/2007, all applicants for employment as teachers in all other fields should possess the ICDL certificate. Applicants with an ICDL certificate before the previously mentioned final dates will receive priority for employment. Clause number six of this resolution confirms that the Under-Secretary of the Ministry of Education should inform teacher-training colleges about this resolution to enable them to undertake the necessary arrangements for all graduates to acquire the ICDL certificate starting from academic year 2005/2006. The resolution also directs the public educational sector to study the possibility of exempting secondary school students (courses system) who have the ICDL certificate from studying the computer course and to consider awarding them an A grade.

## **B. Commentary**

This document is addressing one of the important themes investigated in this study searching influential factors of ICT implementation. The key theme of this document is that it addresses decision making process in relation to MoE policy towards ICT implementation. This ministerial resolution is a very important practical step and crucial decision taken by the Ministry of Education towards qualifying educational staff in all schools in Kuwait with regard to the implementation of new information technology in education. The strength of this resolution is its comprehensive inclusion of all participants in the educational process in schools including teachers, head teachers, mentors, chief mentors, vice school principals and school principals. In addition, its obligatory nature, which ties the promotion of the current working staff and the employment of new staff to the acquisition of the ICDL certificate, has given this resolution a strong power. The financial support included in this resolution to acquire this certificate was also an important factor that sustained its feasibility and encouraged educational staff to attain the certificate within the designated time. Moreover, the resolution was keen to persuade teacher-training colleges to prepare new graduate teachers to acquire the ICDL certificate before graduation and also encouraged secondary schools students to gain this qualification.

This ministerial resolution was an important step taken by the Ministry of Education towards ICT implementation. However, despite its great importance and its comprehensive positive results on the educational body in Kuwait, it can be concluded that its problematic implementation has decreased its expected return and limited its forecasted benefits. This research has shown that a large number of educational staff in schools is still not qualified to use the new technologies, despite their acquisition of the ICDL certificate. In other words, the Ministry of Education

has to provide continuous training for educational staff in schools and should not solely rely on the staff's attainment of the ICDL certificate.

## **Document 2:**

### **Kuwait Strategic Plan of Public Education 2005-2025**

The Kuwait Strategic Plan of Public Education has answered one of the major questions addressed by this research regarding the policies adopted by the Ministry of Education (MoE) towards implementing ICT in government secondary schools. The Kuwait Strategic Plan of Public Education 2005-2025 was officially approved by the Ministries Council of Kuwait in June 2003 after its preparation by the Ministry of Education. This plan was developed from The National Conference of Education held in 2002, and was offered as part of the government's continuous efforts to develop the Kuwait educational system that publicly started after the liberation of Kuwait in 1991. This developing movement started when the Ministry of Education applied different development resolutions to develop the Kuwait educational system. Those resolutions included the development of different existing subjects at all educational stages and the addition of new subjects such as Information Technology, starting from the primary stage. Moreover, the time spent studying English language was extended to twelve years instead of eight, as it was decided lessons would start from class one at the primary stage instead of class one at the intermediate stage. The distribution of the educational stages was also modified to match different educational systems throughout the world. The educational system in Kuwait comprises 12 years and those years were split into three stages: primary, intermediate and secondary, each stage lasting for four years. The length of these stages was modified in educational year 2004/2005 to become five years for the primary stage, four for the intermediate stage and three for the secondary stage.

## **Documentary Analysis**

### **A- Content**

This document was accessed through the website of the MoE in 2008. It is an authentic primary source document prepared by the MoE in 2003. The importance of this document is manifest in that it maps the course of education development in Kuwait, including ICT implementation, in both the present and the future. Although the timing of educational projects and programmes mentioned in this strategic plan was not clearly established along its 20 year range, it shows the broad vision and the approach adopted by the MoE for both the short and long term. The MoE claims that this plan was based on a present situation diagnosis, relying on educational philosophy and principles which were directed to specific educational plans and programmes. The MoE also claims that, through this strategic plan, the image of the future public education system was formed and its strategic objectives to guide that image were determined. In addition, the MoE claims that it is currently working to determine the programmes that will achieve those objectives and aims.

This document summarises the issues covered in the strategic plan of public education 2005-2025 into three major areas: universal issues, Kuwaiti issues and educational issues. The universal area includes interacting with surrounding civilisations, which requires more open-minded thinking and the ability to deal with dynamic change, but at the same time the maintenance of Kuwait's original cultural identity and its basic components. The universal area also includes the technological challenges that require the technological gap between developed and developing countries to be bridged. This part of the strategic plan is most related to the area of this research and is also the section that seems to be facing different types of challenges and difficulties and has, therefore, become the focus of our investigation.



The area related to Kuwait covered in this strategic plan includes emphasising social and political values such as dialogue skills and attitude dissimilarity, human rights, democracy and social mixture of the Kuwaiti society as it consist of different social groups. This area also aims to encourage Kuwaitis to move from working in the public sector towards working in the private sector. Other documents and instruments of data collection show that this part of the plan is partially being practically executed through changing the syllabus of Islamic Studies at the secondary stage. Critical materials relating to discrimination between Shia and Sunni were removed from the syllabus of that subject. In addition, new subjects like National Education, Kuwait Constitution and Business Establishments have been implemented over the last five years.

The final area covered by this strategic plan is educational issues, since this plan aims to establish an educational system that is capable of supporting young people to accomplish Kuwait national and international general objectives, including students with special needs. This part of the plan also aims to shift the focus of educational management to the development of activities, observation and evaluation and simultaneous support and investigation of schools. However, it seems that this section needs more attention, as educational management still control most of the activities in schools. The plan also aims to achieve the maximum possible benefit by investing the financial resources dedicated to educational development. Those universal, national and educational areas and issues are the main components of the Kuwait Strategic Plan of Public Education 2005-2025.

Due to the critical importance of the young to Kuwait and the sensitivity required when dealing with their future and the future of the nation, this strategic plan for public education has clearly determined its referential theoretical framework, which echoes this vital importance. This theoretical framework includes several main factors

that constitute the Kuwaiti culture and community and its relationship with other cultures and communities around the world. These factors are: the Kuwaiti constitution, the Kuwaiti community and its nature and history, dynamic change in education and its exciting status, related regulations and rules and, finally, the development of education and the adoption of other countries' experiences in the educational field. These factors establish the path followed by the educational strategic vision and message in order to decide the strategic aims of the public education system in Kuwait.

This document clearly states the strategic goals of public education in Kuwait and summarises them in six main aims. One of those aims is bridging the digital gap between the public educational system and the requirements for dealing with developed technology in educational, occupational and other fields of life. The document also verifies the actions taken by the Ministry of Education (MoE) to execute this strategic plan and the duties that need to be undertaken by the assigned ministerial committees. Conversely, the document does not state a clear timeframe for its programmes and projects.

## **B- Commentary**

The key theme of this document is that it addresses a very important aspect of ICT implementation, which is the planning process of including ICT implementation in the educational system in Kuwait. Commentary on this document will focus upon the parts of the plan that are related to this research into ICT implementation in secondary schools and the intention to bridge the digital gap between the public educational system and the requirements necessary to deal with new technology. Firstly, it seems the slow execution and implementation of governmental resolutions consequently delays and reschedules government programmes and projects in

Kuwait. Evidence of this slow approach to government procedures is presented in this document when it refers to the support that the strategic plan has gained from both the Council of Ministries and the National Assembly. The document demonstrates that the strategic plan was presented by the Ministry of Education to the Council of Ministries in June 2003 for government approval. The Kuwaiti law requires that such a plan must gain the support and authorisation of the Kuwait National Assembly before being put into effect. The document shows that the process of referring this plan from the Council of Ministries to the National Assembly took around six months, as it was first presented to the National Assembly in December 2003. For unknown reasons, the plan was presented for the second time in December 2004 to gain the National Assembly's final approval. In other words, it took 18 months between the Council of Ministries and the National Assembly for the final official approval of the plan. Nonetheless, the document illustrates that the Ministry of Education undertook preparatory practical actions related to the plan even before its final approval from the National Assembly. Those actions include preparing the governmental programme for educational years 2003/2004 – 2006/2007 that contain the six aims of the strategic plan.

This document provides evidence of the importance that the Ministry of Education attaches to implementing new technologies in its educational system. It also demonstrates the intention of the Kuwait Government and National Assembly, which represent the Kuwaiti people, to bridge the digital gap between the public educational system and the necessary requirements when dealing with new technology in all educational and personal fields. This assertion is drawn from the fact that this aim to bridge the technological gap was included among the main six aims that Kuwait wishes to achieve during the 2005–2025 period in order to develop its public educational system.

A comparison of the content of this document with other documents investigated during this study has revealed important information that shows that, despite the difficulties encountered during the process of bridging the digital gap in the educational system, some encouraging steps have already been achieved. For example, the Ministerial Memo Number ME2/92007, dated 15/01/2007, shows that the administrative implementation of new technology is gradually taking place. According to this memo, records for all students are being produced and computerised using specific software. This development minimises possible mistakes and helps to facilitate a registry of exam results and other administrative processes. Other documents, such as Development Administration Resolution No, MED1999, dated 29/11/2000, and Ministerial Resolution No. 359/2002, dated 03/08/2002; show that efforts and decisions related to bridging the technological gap in the educational system had already begun even before the release of the Kuwait Strategic Plan for Public Education. As previously outlined, Ministerial Resolution No. 359/2002 confirms that all teachers, mentors and school principals are required to obtain the International Computer Driving License (ICDL) by educational year 2003/2004 for those working in the field of computer studies and 2007/2008 for those working in all other subjects. Those resolutions and the efforts exerted since the liberation of Kuwait in 199, supported by this strategic plan in 2003, confirm the intention of the Ministry of Education and its efforts to develop and support the technological abilities of all teachers and workers in the educational field.

Conversely, other instruments used in this research reveal that practical progress in schools is not moving at the same momentum towards the implementation of new technology in the educational system. This SPE and the projects that emerge from it are not giving enough information about the pedagogical implications of ICT in schools and the role that each party needs to master in order to achieve the ambitious

objectives of the plan (Hollingsworth, 2005). Difficulties still need to be investigated and solved by the socio-political parties in order to accomplish the strategic aims of the new educational system in Kuwait.

This document offered the researcher guidelines to evaluate the practical side of this plan in schools and related educational institutions and helped to explore to what extent the practical side echoes the theoretical side of the plan. It also provided the researcher with key information that could match or mismatch information gathered from other data collection instruments. Finally, information in this document also helped with the preparatory stage of the final interviews with some teachers and key decision makers in the Ministry of Education and teacher training colleges. In light of the information included in this document, the researcher decided to investigate the performance of the Supervisory Expert Committee that supervises the progress of projects related to the sixth aim of the strategic plan, namely technological implementation. The document also supplied the researcher with information that was useful when designing the second questionnaire used in this study.

### **Document 3**

#### **A comparison between the programmes of English language students in the College of Education in Kuwait University for academic years 1993/1994 and 2006/2007**

The College of Education at Kuwait University is considered to be the main national college which mostly provides the Ministry of Education with the teachers needed for different educational specialisations. This college was established in 1980 and includes different majors for all educational stages: kindergarten, primary, intermediate and secondary. Graduates from the College of Education include teachers of languages (Arabic/English), sciences, mathematics, Islamic studies,

geography, history, etc. The college also produced librarians, social and psychological specialists and educational aids technicians. Each major in the College of Education has a specific programme, which includes all the modules given to students during their four year bachelor course. Graduates from the College of Education mainly work in government schools after graduation. English language is one of the main majors at the College of Education that qualifies Kuwaiti English language teachers to work in the different educational stages in government schools.

## Document Analysis

### A- Content

These documents are the programmes studied by English language students in the College of Education during academic years 1993/1994 and 2007/2008, according to the Registry Office in Kuwait University. They have been designed to prepare English language students to teach in intermediate and secondary schools in Kuwait. Table 7 presents a comparison between the two programmes for academic years 1993/1994 and 2007/2008.

**Table 7: Comparison of teachers' preparation programmes at the College of Education in Kuwait University**

<b>Programme for academic year 1993/1994</b>	<b>Programme for academic year 2007/2008</b>
Specialization: <b>English Language</b> Courses Credits <b>First:</b> <b>University Requirements (24 credits)</b> <b>Compulsory (15 credits)</b> 101 Arabic 3 102 Arabic 3 102 Islamic Arabic Civilization 3 121 English Conversation (Prereq. 20) 3 125 Text Reading (Prereq. 21) 3 <b>Electives (9 credits)</b> (Group 1) (3 credits) 100 Modern & Contemporary History of Kuwait 3 104 Principles of Economics 3 135 Introduction to Educational Research 3	Specialization: <b>English Language</b> Courses Credits <b>First:</b> <b>University Requirements (24 credits)</b> <b>Compulsory (15 credits)</b> 101 Arabic 3 102 Arabic 3 102 Islamic Arabic Civilization 3 105 English Conversation 3 107 Text Reading 3 <b>Electives (9 credits)</b> (Group 1) (3 credits) 100 Modern & Contemporary History of Kuwait 3 104 Principles of Economics 3

<p>136 Family Education 3 (Group 2) (6 credits)</p> <p>111 Introduction to Life &amp; Nature Sciences 3</p> <p>111 Man &amp; Energy 3</p> <p>111 Earth &amp; Universe 3</p> <p>112 Human Biology 3</p> <p>246 Concepts of Modern Mathematics 3</p> <p><b>Second:</b></p> <p><b>Major Requirement (63 credits)</b></p> <p><b><u>Compulsory Introductory Courses (9 Non-Credit Courses)</u></b></p> <p><u>20 Introductory Conversation</u></p> <p><u>21 Introductory Reading</u></p> <p><u>40 Introductory Writing</u></p> <p><b>Compulsory (45 credits)</b></p> <p><u>140 Principles of Sentence &amp; Paragraph Writing</u> (Prereq.40) 3</p> <p>170 Introduction to Literature (Prereq.20,21,40) 3</p> <p><u>235 Principles of Prose 3</u></p> <p><u>265 Introduction to Linguistics 3</u></p> <p>227 Applied Linguistics 3</p> <p>228 Language Acquisition 3</p> <p>234 Survey of Fiction 3</p> <p><u>266 Phonetics &amp; Phonology 3</u></p> <p>262 Morphology &amp; Syntax 3</p> <p>280 Translation (1) 3</p> <p><u>449 Report writing 3</u></p> <p><u>427 Speech 3</u></p> <p><u>360 Language Syntax 3</u></p> <p>381 Translation (3) 3</p> <p><u>467 Semantics 3</u></p> <p><b>Electives (18 credits)</b></p> <p><b>Student selects one course (3 credits) from each of following groups:</b></p> <p>(Group 1)</p> <p><u>225 Advanced Conversation 3</u></p> <p><u>226 Discourse Analysis 3</u></p> <p>(Group 2)</p> <p><u>345 Drama Descriptive Writing 3</u></p> <p>000 Writing module (level 3) 3</p> <p>(Group 3)</p> <p><u>362 Applied-linguistics 3</u></p> <p><u>366 Socio-linguistics 3</u></p> <p><u>367 Linguistics 3</u></p> <p>(Group 4)</p> <p><u>445 Essay writing 3</u></p> <p><u>368 Lexicography 3</u></p> <p>(Group 5)</p> <p><u>315 Shakespeare &amp; His Age 3</u></p> <p><u>335 19th Century Novel 3</u></p> <p><u>355 Romantic &amp; Victorian Poetry 3</u></p> <p>(Group 6)</p> <p><u>414 Modern Drama</u></p> <p>434 Modern Novel 3</p>	<p>135 Introduction to Educational Research 3</p> <p>136 Family Education 3 (Group 2) (6 credits)</p> <p>111 Introduction to Life &amp; Nature Sciences 3</p> <p>111 Man &amp; Energy 3</p> <p>111 Earth &amp; Universe 3</p> <p>112 Human Biology 3</p> <p>246 Concepts of Modern Mathematics 3</p> <p><b>Second:</b></p> <p><b>Major Requirement (63 credits)</b></p> <p><b>Compulsory (45 credits)</b></p> <p>108 Principles of Sentence &amp; Paragraph Writing 3</p> <p>170 Introduction to Literature 3</p> <p>180 Principles of Translation 3</p> <p>223 Introduction to Linguistics 3</p> <p>227 Applied Linguistics 3</p> <p>228 Language Acquisition 3</p> <p>234 Survey of Fiction 3</p> <p>243 Phonetics &amp; Phonology 3</p> <p>262 Morphology &amp; Syntax 3</p> <p>280 Translation (1) 3</p> <p>309 Research Writing in Linguistics 3</p> <p>328 Discourse Analysis 3</p> <p>363 Generative Syntax 3</p> <p>381 Translation (3) 3</p> <p>369 Semantics 3</p> <p><b>Electives (12 credits)</b></p> <p><b>Student selects one course (3 credits) from each of following groups:</b></p> <p>(Group 1)</p> <p>205 Advanced Conversation 3</p> <p>206 Dramatics 3</p> <p>(Group 2)</p> <p>208 Essay Writing 3</p> <p>209 Report Writing 3</p> <p>(Group 3)</p> <p>327 Socio-linguistics 3</p> <p>329 Psycholinguistics 3</p> <p>(Group 4)</p> <p>421 Lexicography 3</p> <p>422 Text Linguistics 3</p> <p><b>Student selects one group of the following:(6 credits)</b></p> <p>(Group 1)</p> <p>314 Shakespeare &amp; His Age 3</p> <p>213 Survey of Drama 3</p> <p>(Group 2)</p> <p>334 19th Century Novel 3</p> <p>434 Modern Novel 3</p>
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<u>250</u> Modern Poetry 3 <b>Third:</b> <b>Vocational Preparation (43 credits)</b> 222 Foundations of Education 3 235 Computer in Education 3 331 Educational Psychology 3 332 Psychological Health 3 357 Curriculum 3 358 Media & Educational Technology 3 362 Teaching English (1) 3 372 Teaching English (2) 3 413 School Administration 3 421 Development of Educational Thought 3 431 Evaluation & Measurement 3 <u>471</u> Field Training 7 482 Seminar 2 <b>(Total Credits for Graduation = 129)</b>	(Group 3) 354 Romantic & Victorian Poetry 3 254 Survey of Poetry 3 <b>Third:</b> <b>Vocational Preparation (45 credits)</b> 222 Foundations of Education 3 235 Computer in Education 3 331 Educational Psychology 3 332 Psychological Health 3 357 Curriculum 3 358 Media & Educational Technology 3 362 Teaching English (1) 3 372 Teaching English (2) 3 413 School Administration 3 421 Development of Educational Thought 3 431 Evaluation & Measurement 3 465 Field Training 10 482 Seminar 2 <b>(Total Credits for Graduation = 132)</b>
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A comparison between the two programmes shows that, over this long period of time, development of the course prepared for English language students is very limited and has only occurred in some linguistic modules. Both programmes are divided into three main areas: university requirements, major requirements and, finally, vocational preparation. The only change that has occurred in the first area, which covers 24 credits, is the number of two modules (modules 121 and 125); the names and content of those two modules has remained the same. In the second area, major requirements (language skills) which comprise 63 credits, few modules have changed and other modules have only been renumbered or reordered in the programme (note the underlined modules in Table 7 above). The third area, which addresses the vocational preparation of English language teachers and is considered to be the most pedagogical part of the programme, has not developed or changed during the last 17 years. The only change that has occurred is to the number and the credit value of the Field Training module, which has risen from seven credits to ten, which increased the total credits required for graduation from 129 to 132. Among the thirteen modules



taught in this part of the programme, two are related to ICT: module number 235 'Computer in Education' and module number 358 'Media and Educational Technology'. These two compulsory ICT modules have continued to be undeveloped or supported by other new ICT modules, even in the new programme implemented in academic year 2010/2011, which increased graduation credits to 135 (see Kuwait University, College of Education, programmes, academic year 2010/2011. [http://www.kuniv.edu/cons/groups/ku/documents/ku\\_content/ku\\_002642.pdf](http://www.kuniv.edu/cons/groups/ku/documents/ku_content/ku_002642.pdf)).

## **B Commentary**

The key theme of this document is that it addresses another important aspect of ICT implementation, which is related to teacher's preparation in order to qualify them for ICT implementation in their teaching process. In addition, this document shows the problematic planning and decision making adopted in MoE. The very limited development of the programme for English language specialisation in the College of Education in Kuwait University and the fact that the pedagogical part of that programme has remained the same for more than 14 years provides a negative view of curriculum development in the College of Education. Al Wardan (2009) criticises the management of the College of Education for their delay in developing all programmes in the college, even though proposals for the new developed programmes have existed for a very long time. He also claims that some other colleges in Kuwait University, which share some modules with the College of Education, have complained to the university management about the old module content.

A comparison of these two documents presented in table 7 above highlights the weak curriculum development process in the College of Education; moreover, it has been established that the management of the College of Education is being criticised by

educational writers and other colleges for its old curriculum. Furthermore, this comparison shows the lack of coordination and cooperation between the Ministry of Education and teacher training colleges in Kuwait. When the first document in this documentary analysis, ICDL Ministerial Resolution No 359/2002, is examined, it is possible to explore the lack of coordination and cooperation between these educational bodies with regard to the achievement of the strategic plan of the Ministry of Education. Although clause number six confirms teacher training colleges have been informed of this resolution in order to enable them to undertake the necessary arrangements for all graduates starting from academic year 2005/2006 to acquire the ICDL certificate, the College of Education has maintained the 14 year old curriculum without any development. Almufarrej et al. (2007 p 20) assert that the MoE is suffering from a lack of policies related to teacher training. They opine that teacher-training colleges are keen to specify the quantities and the specialities of teachers; however, they never specify the criteria that govern the selection process of the new future teachers. They also affirm that teacher-training colleges are suffering from a lack of clear detailed objectives and vision which, in turn, limits their potential for development. These colleges are also suffering from a lack of coordination between themselves and the MoE.

## **Document 4**

### **The English language programme in the College of Basic Studies in the Public Authority of Applied Education (PAAET) for academic year 2007/2008**

The College of Basic Studies in the Public Authority of Applied Education was established in 1986 and English language specialisation was established in 2001 in the female section of the college.

## **Document Analysis**

### **A- Content**

When examining the programme of the English language course in the College of Basic Studies PAAET it can be noted that most of the content is adopted from the English language curriculum of the College of Education in Kuwait University. However, this programme contains new modules that are not found in the English language course in the College of Education in Kuwait University. For example, Module No.111, the Introduction to Educational Computers, Module 112, the Introduction to Educational Technology, and Module No. 431, Teaching English Using a Computer, are included. However, the weak point in this programme is the fact that those modules were elective, which means students may graduate without sufficient information regarding how to implement ICT in their classes.

### **B- Commentary**

The key theme of this document is that it also addresses teacher's preparation in order to qualify them for ICT implementation in their teaching process. It also shows the problematic planning and development decision making adopted in MoE. This programme was designed and applied when the English language specialisation was introduced in the College of Basic Studies in PAAET in academic year 2001/2002.

Since that time until this academic year 2009/2010, this programme has not been evaluated or developed. In addition, it seems that a lack of coordination between the MoE and teacher training colleges in relation to ICT implementation has hindered the full execution of ministerial resolution No.359/2002, especially clauses related to teacher training. For example, as previously discussed, clause number six of that resolution confirms that the Under-Secretary of the Ministry of Education should inform teacher training colleges about this resolution to enable them to undertake necessary arrangements for all graduates starting from academic year 2005/2006 to acquire the ICDL certificate. Designating modules 111, 112 and 431 as elective, so students may not select them during their period of study, does not support the intention of the MoE to qualify novice teachers with the vocational requirements for ICT implementation. Many English language teachers who are not qualified to implement ICT in teaching are now trying to master teaching the new English language textbooks (Over to You) introduced during the academic year 2009/2010 for classes 10 and 11. According to the author of the English for Kuwait series, Haines (2009), those textbooks adopt an integrated approach to language teaching and contain different activities and challenging real-life tasks which, consequently, require knowledge of basic ICT usage including a computer, data management and the Internet.

According to both this document and document number 3 mentioned earlier, it can be concluded that teachers who graduate from teacher training colleges in Kuwait are not vocationally prepared to implement ICT in their teaching. This indicates a lack of coordination between different educational organisations in Kuwait, which in turn delays the achievement of the strategic plan to develop the educational system in Kuwait. Novice teachers who are not individually interested in ICT implementation in their teaching methods will require intensive ICT qualifying courses.

## **Document 5**

### **The annual reports of educational spending for the period 2000/2001 - 2007/2008**

#### **Document Analysis**

##### **A- Content**

Financial administration at the Ministry of Education issues an annual report, which tracks educational spending and evaluates the annual cost per student in the government education sector. This report is considered an important guide and a very essential indicator that the MoE uses to observe the processes of planning and development of the educational system in Kuwait. Analysis of these reports is a useful tool to investigate the financial policies of the MoE and their relationship with the implementation of ICT in government secondary schools.

Similar to other Arab countries in the Arabian Gulf region and some other countries around the world, the annual reports of educational spending demonstrate that education in Kuwait is considered to be one of the top priorities of the Kuwaiti government. The reports highlight that general education is provided free of charge to all Kuwaitis by law and according to the Kuwaiti constitution. During the last seven years, the number of students has grown from 327,669 to 348,122; however, due to diverse factors the annual government educational spending for this period has jumped from KD 514,872,574 to KD 1,009,303,529 (1 KD = around £2.27). Consequently, the annual average cost per student has increased from KD 1,615 to KD 2,899 (£6,588). Around 60% of the budget of secondary schools is spent on salaries for teachers, administrators and assistants. A further 21.7% of the secondary school budget is spent on buildings and 3.3% on school equipment. The MoE's administrative expenses require 13% of the budget, of which 2% is allocated for the

printing of books, water, electricity and stationery. Finally, 2% of the budget is spent on other expenses such as transportation and telephones.

## **B- Commentary**

As stated in table 5, the key theme of this document is that it addresses a very important aspect of ICT implementation related to the importance of having a qualified educational management that is able to make the right decisions related to ICT implementation. Moreover, this document expresses the weak planning and decision making in relation to the finance management and educational spending. The annual report did not indicate the exact volume of spending related to the implementation of ICT in government schools. However, since 84.7% of educational spending for the secondary stage was limited to salaries, buildings and administration expenses and only 3.3% was assigned for all necessary school equipment, it is clear that ICT played a very limited part in the financial management plans of the Ministry of Education in 2007/2008. The accumulated growth in the number of students during the period from 2001 to 2008 was around 6%; on the other hand, the accumulated rise in the educational budget exceeded 95%, which shows a significant statistical difference. This difference clearly demonstrates that education in Kuwait is generously funded, but the management of this huge budget is under question. Faris et al. (2009) demonstrate that the budget of the MoE suffers from inattentiveness and bad management. For example, the 13% of the budget spent on the MoE's administrative expenses includes a huge number of administrative committees that consume a significant amount of money, despite the weak outcomes of the decisions of those committees due to the poor selection of participants. They also illustrate that the usage of school buildings, school administration and the number of teachers and their competencies is not well managed and these assets are not used effectively. In addition, the MoE has a large number of administrative employees and does not use

new technology and programs on the Internet that could help to reduce the number of administrative staff in schools and ministry headquarters. The findings of this report confirm the claims of some interviewees regarding the weak outcomes of the educational system in Kuwait, despite the huge budget assigned to the Ministry of Education. This is demonstrated by the previously mentioned statistic that Kuwait came 43 out of 45 participants in the Progress in International Reading Literacy Study (PIRLS), despite its huge spending on education (PIRLS, 2006). The rank of Kuwait among 36 countries in TIMSS exam is 34 in mathematics and 31 in science (Aldowaisan, 2010). These facts affirm that the educational system in Kuwait contains real administrative and management weaknesses that need to be addressed by the government, National Assembly and all civil organisations in Kuwait.

**Summary:**

We have learned very important information from the findings of documents in relation to the policies of the MoE, planning, educational research and coordination among educational institutions in Kuwait. For example, the documents researched indicated that educational policies, including ICT policies, are clearly determined and announced through the strategic plan from the MoE, issued in 2003, regardless of the criticism of this policy by many educators, with regard to its length and breadth. The documents have also informed us about policies adopted by Teacher Training Colleges in preparing to include ICT literacy in new teacher training programmes. In relation to ICT qualification, teacher-training programmes are limited, out of date and have not been developed in a number of years. This demonstrates the amount of effort needed to develop different related issues in ICT implementation, to benefit from the spread of technologies in the community and to integrate the efforts of all related parties. The documents have also revealed that many problematic issues are related to decisions taken by the MoE, in relation to ICT implementation requirements, in terms

of spending policy, infrastructure, teachers' preparation, training and curriculum development.

Documents and other data collection tools undertaken with teachers and expert educators, presented in the following sections, revealed that coordination between teachers' preparation collages and the MoE and coordination among MoE departments is one of the major problematic issues related to ICT implementation. For instance, the comparison between documents presenting teachers' preparation programme from 1994 until 2008, has shown the lack of coordination that influenced implementation of ICDL Ministerial Resolution No 359/2002 although of its powerful nature as a ministerial resolution. In addition, teachers and school principals pointed out that schools are not yet equipped with enough computers, Internet access or a related curriculum to enable teachers to practice what they have learned during the acquisition of the ICDL certificate. They claim that, due to a lack of practice, they have forgotten most of what they learned from the ICDL course, as some of them took the certificate three or five years ago and, until now, have not had computers or Internet access in their departments or schools. An additional problematic issue related to the implementation of this resolution is the conservative attitudes that some teachers and school principals hold towards its importance. Some of them believe that new technology will not necessarily develop the educational system and offer a better education to students. They affirm that other educational issues are more important than the implementation of new technology and those educational problems need to be solved first in order to develop the educational system in Kuwait. Some of those teachers and school principals explained that they acquired the ICDL certificate just to avoid being excluded from promotion. One of the critical issues related to the implementation of this ministerial resolution is the reliability of some of the institutions providing the training courses and the exams for the ICDL certificate.



More than one teacher confirmed that the Ministry of Education did not supervise and control the quality of the private institutions providing the ICDL courses and certificate, which consequently encourages some of the workers in those institutions to facilitate the acquisition of the ICDL certificate for the trainees. In fact, one of the teachers confided that he obtained the certificate through one of his friends without even attending the exam! He confirmed that he had only paid the course fees with some additional cash to get the certificate without even knowing the location of that institution.

Another important issue related to the problematic implementation of this crucial resolution is coordination between the Ministry of Education and the other related parties. One of the documents analysed in this research has revealed that the College of Education in Kuwait University has not taken any action towards qualifying its graduates with the ICDL certificate, despite the clear instructions of clause six of this resolution. Findings from this documentary analysis reveal the importance of investigating the lack of coordination between the Ministry of Education and the related parties, since it is one of the main reasons causing the delay in the progress of the Education Strategic Plan and ICT implementation in Kuwait.

### **5.2.2 Teachers' questionnaire**

Teachers' questionnaire was designed to be a part of other methods used for data collection in this research. The aim of this questionnaire, in particular, is to ask teachers and investigate the key areas related to the main research question about barriers to the implementation of ICT in English language classes in secondary schools in Kuwait. Those areas are: schools' readiness to implement ICT, teachers' views regarding ICT implementation, teachers' views about main current barriers to ICT implementation, teachers' views about the impact of socio-political dimensions in ICT implementation, teachers' views about ICT policy in the MoE and, finally, teachers' views about requirements for better ICT implementation. These areas are determined as areas for research in the main part of the study, in light of the literature review and the findings of the piloting part of the study. The literature review and exploratory part of this research showed that ICT policies, school infrastructure, teachers' readiness and enthusiasm, the curriculum and the socio-political environment are the main factors for any successful ICT implementation.

#### **Strategy for data collection and analysis**

In order to maintain a high response rate to this questionnaire, principals in participating schools assisted by allocating coordinators from English departments in each school to help the main coordinator assigned by the researcher to administrate the distribution and collection process of questionnaires. Every coordinator assigned by the researcher supervised ten schools and was intensively trained to be familiar with the introductory explanation of the questionnaire, ethical considerations, inclusion and exclusion criteria, the tracking of distributed copies of the questionnaire, and questionnaire collection. The researcher supervised and managed the data collection process by personal attendance in some schools and by continuous communication with assigned male and female coordinators over the phone. Using a

stratified random sample, 25 boys' secondary schools and 25 girls' secondary schools were selected from different geographical areas all around Kuwait to participate in this questionnaire. Out of 400 questionnaire papers distributed among teachers, around 342 papers were returned and 306 were found to be valuable for analysis after excluding non-valid papers; for example, some were not fully completed or were answered carelessly by choosing answers without real attention, as shown in contradictory responses to several questions, or by selecting the same answer for all the questions.

In relation to the analysis process for this questionnaire, the researcher consulted the Statistical Consulting Unit at the College of Business Administration at Kuwait University to receive guidance and assistance in executing this crucial part of the study. The questions used in this questionnaire were separated into four groups, thus representing the main themes of the research. Some themes of research are contracted in one part of the questionnaire in order to sustain the applicability of the questionnaire, as long questionnaires tend to be avoided by the sample respondents. Responses of teachers were prepared, coded and entered into a computer and analysed using SPSS software as a tool of data analysis. The analysis was simple and straightforward, since descriptive analysis was used to describe and reveal the participants' characteristics and to answer specific research questions. Descriptive statistics were used to find frequencies, cross tabulation counts and the Chi-square, for deeper analysis and investigation. The significance level used was 0.05 in determining whether or not there was a significant statistical relationship between the variables.

## Statistical descriptive analysis

### 5.2.2.1 Part one: background to the existing setting

This part of the questionnaire is intended to explore current teachers' readiness, experience and competency to use ICT, as they are considered to be crucial components of barriers against ICT implementation. For the same purpose, this part also explores current infrastructure and whether schools are already equipped with any of the requirements for ICT implementation.

### Demographic characteristics of the sample

**Table 8: Frequency distribution of teachers by work place**

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid 1 Asima	38	12.4	12.4	12.4
2 Hawally	60	19.6	19.6	32.0
3 Ahmadi	64	20.9	20.9	52.9
4 Farwaniya	48	15.7	15.7	68.6
5 Jahra	46	15.0	15.0	83.7
6 Mubarak Al-Kabeer	50	16.3	16.3	100.0
Total	306	100.0	100.0	

Table 7 above presents the frequency distributions of teachers by work place. Frequency distribution of teachers' workplace shows that the sample was relatively evenly distributed among the geographical areas according to the volume of each area and the number of its secondary schools. Regarding their gender, 49.7% of the respondents were male, while 50.3% were female teachers. It is known that a large body of teachers working for the Ministry of Education are non-Kuwaitis, as shown in Table 9, 30.5% of the respondents are Kuwaitis, 43% are Egyptians, 12.8% are Syrian and 13.8% are other nationalities.

**Table 9: Nationality of the respondents**

		Frequency	Per cent	Valid per cent	Cumulative Percent
Valid	1 Kuwaiti	93	30.4	30.5	30.5
	2 Egyptian	131	42.8	43.0	73.4
	3 Syrian	39	12.7	12.8	86.2
	4 Others	42	13.7	13.8	100.0
	Total	305	99.7	100.0	
Missing	System	1	.3		
Total		306	100.0		

**Teacher's Experience in ICT**

When teachers were asked about attending ICT courses, 11.8% said they have never attended any course related to ICT, 37.8% said they had attended a course in the last two years, 40.5% answered that they have attended a course in the last five years, while 9.9% said they had attended a course more than five years ago, as presented in Table 10. This could indicate that the 88.2% of teachers have attended ICT courses after the release of Ministerial Resolution No. 359/2002 issued by the Ministry of Education in 2002, encouraging teachers to attain the ICDL certificate. Nonetheless, although this resolution became compulsory for all teachers in the MoE since 2007/2008, 21.7% of teachers have either never attended an ICT course or attended courses more than five years ago.

**Table 10: Recent ICT courses**

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1 never	36	11.8	11.8	11.8
	2 last two years	115	37.6	37.8	49.7
	3 last 5 years	123	40.2	40.5	90.1
	4 more than 5 years ago	30	9.8	9.9	100.0
	Total	304	99.3	100.0	
Missing	System	2	.7		
Total		306	100.0		

Regarding teachers' description of their general usage of ICT, Table 11 provides the frequency distribution of teachers' description of their ICT usage. As shown, 10.5% of respondents described their ICT competence as advanced, 66.3% described it as intermediate, 18% described it as limited and 4.9% stated that they do not use ICT.

**Table 11: Teachers description of their general usage of ICT**

		Frequency	Percentage	Valid Percentage	Cumulative Frequency
Valid	1 Advanced	32	10.5	10.5	10.5
	2 Intermediate	203	66.3	66.3	76.8
	3 Limited	55	18.0	18.0	94.8
	4 Don't Use it	15	4.9	4.9	99.7
	Missing	1	.3	.3	100.0
	Total	306	100.0	100.0	

### School Infrastructure

When teachers were asked about the availability of computers at school and whether they have personal computers, share with others or they do not have a computer at school, Table 12 shows the distribution of their responses. As indicated, 9.5% of the teachers have personal computers, 88.2% of the sample have computers shared with other teachers, while 2.3% do not have computers. Other research tools have shown that each department has one computer for the use of all teachers.

**Table 12: Availability of computers at school**

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1 Personal	29	9.5	9.5	9.5
	2 Shared	270	88.2	88.2	97.7
	3 No Comp	7	2.3	2.3	100.0
	Total	306	100.0	100.0	

Regarding the availability of Internet access at school, 74.5% were positive about the statement, whereas 25.2% said no; they do not have Internet access at school. As presented in Table 13, 74.5% of the respondents said yes to the statement, while

25.2% of the respondents said no. This highly positive percentage of Internet access looked, at the beginning, as if it would contradict some findings from the piloting part of the study. However, interviews with some teachers after they completed the questionnaire revealed that their responses to this question referred to the availability of the Internet in the administration department of schools and not in the English department or classes.

**Table 13: Internet access at school**

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1 Yes	228	74.5	74.5	74.5
	2 No	77	25.2	25.2	99.7
	Missing	1	.3	0.3	100.0
	Total	306	100.0	100.0	

When asked about local network availability in school, 60.7% of teachers confirmed the presence of local network at their schools, whereas 39.3% were negative, as shown in Table 14 below. Local networks available in many schools and are mainly used for recording students' monthly performance reports in the Students Registration System (SRS) implemented in 2003.

**Table 14: Local network at school**

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	1 Yes	185	60.5	60.7	60.7
	2 No	120	39.2	39.3	100.0
	Total	305	99.7	100.0	
Missing	System	1	.3		
	Total	306	100.0		

### **5.2.2.2 Part two: Teachers' Views Regarding ICT Implementation**

This part of the questionnaire explores teachers' views regarding ICT implementation to establish if there is any rejection of or resistance to the intention of the Ministry of Education to implement ICT in the educational system and schools in Kuwait. Findings from this part show that respondents' beliefs regarding ICT were positive and above average (3.6096, on 5-likert scale) with a standard deviation of 0.36869 (see Table 22).

The following table (15) presents statistical summary measures in the form of relative frequencies and the mean and standard deviations of each research question related to teacher's views regarding ICT. Examination of the details of the teachers' responses to the research questions related to this area could be useful. With regard to whether ICT supports the learning and teaching process, 51.3% of respondents responded very positively about the issue, with an average of 4.63 on a 5-Likert scale. In relation to the role of ICT in motivating students to learn, 48.4% of respondents were very positive about the question, with an average of 4.66 on a 5-Likert scale. The question asked whether ICT implementation prepares students to deal with new technology, and 45.9% of respondents were very positive about the question, with an average of 4.32 on a 5-Likert scale. In relation to the importance of including ICT in the curriculum, 48.3% of respondents' were very positive about the matter, with an average of 4.28 on the scale. When asked about the negative impact of ICT on students' culture, 33% of respondents were negative about the issue, with an average of 2.82 on the scale. However, 61.7% of teachers were positive about students' competence to use ICT in their learning process, with an average of 3.88. Next, 31.5% of teachers were negative about whether ICT is time consuming, while 26.2% were positive, with an average of 3.04 on 5-Likert scale. In relation to the question which asks whether using ICT in teaching needs more effort from the teacher, 59.4%



of the respondents were very positive about the issue, with an average of 3.86 on a 5-Likert scale. Regarding whether ICT implementation in schools is difficult, 36.5% of respondents were negative about the matter, with an average of 2.91 on the 5-Likert scale. However, 58.2% disagree that the traditional way of teaching is better than using ICT, with an average of 2.16 on the scale. In conclusion, this part of the research reveals that most teachers have very positive beliefs regarding ICT implementation and positive views about students' ability to use ICT for their learning process.

**Table 15: Teachers' Views regarding ICT implementation**

Statement	Relative Frequency Distribution					Mean	Standard Deviation
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree		
ICT could support the learning and teaching process.	51.3	45.8	1.6	1.0	0.3	4.63	2.95
ICT will motivate students for learning.	48.4	41.8	6.2	2.9	-	4.66	3.74
ICT implementation will prepare my students to deal with new technology in labour market.	45.9	44.3	5.9	3.6	0.3	4.32	0.77
ICT implementation should be included in curriculum.	48.3	37.1	9.9	3.6	1	4.28	0.86
ICT implementation could morally harm our students.	6.3	18.5	34	33	8.3	2.82	1.03
Students in my school have the competence to use new technology.	17.2	61.7	13.9	6.3	1	3.88	0.79
I think that using ICT for teaching is time consuming.	11.5	26.2	23.9	31.5	6.9	3.04	1.14
Using ICT in my teaching will need more efforts from me.	19.8	59.4	8.3	12.2	0.3	3.86	0.88
I believe that ICT implementation is difficult in our school.	8.2	25	23.4	36.5	6.9	2.91	1.10
I prefer to keep using traditional way of teaching.	2	7.2	14.4	58.2	18.3	2.16	0.87

### **5.2.2.3 Part three: Conditions of ICT Implementation**

#### **Main Barriers to ICT Implementation**

This part of the questionnaire aims to explore teachers' views towards the current main barriers to ICT implementation and their impact on the Ministry of Education's plan to implement ICT in schools. Those barriers relate to the readiness of schools, competencies of students, teachers and mentors, the curriculum and other related issues. Findings from this part of the questionnaire show that respondents were not so positive about the current barriers to ICT implementation with an average of 2.696 on a 5-Likert scale, with a standard deviation of 0.45 (see Table 22).

Table 15 presents statistical summary measures in the form of relative frequencies, mean and standard deviations for each research question related to conditions of ICT implementation. Establishing the details of the participants' responses to the research questions related to this area of research could be valuable. Regarding whether teachers' ability supports ICT implementation, 52.9% of the teachers were very positive about the statement, with an average of 3.98 on a 5-Likert scale. In relation to the statement that the syllabus explains how to use ICT in class, 49.5% of the respondents were negative, with an average of 2.47 on a 5-Likert scale. The statement that educational departments prefer using traditional methods rather than using ICT showed an average response of 3.04 on a 5-Likert scale. In relation to the statement claiming that computers available in schools cover teachers' needs, 51.7% of the respondents were negative and 33.8% were very negative about the matter, with an average of 1.90 on the 5-Likert scale. Moreover, 47% of the respondents were also negative about the statement stating that Internet access is available for all teachers, 36.8% were very negative about the matter and the average of the responses is 1.90. Next, 55.6% of the respondents were positive about students' possession of the basic necessities to use ICT, with an average of 3.68 on the scale and 55.6% of the

respondents were positive about their knowledge of ICT, with an average of 3.81. However, 57.4% of the participants were negative about the training provided for ICT implementation, with an average of 2.3 on the 5-Likert scale. In relation to the statement that Internet access is available in classes, 43.6% of the respondents were negative and 46.2% were very negative, with an average of 1.73 on the scale. Finally, 45.5% of the respondents were negative and 21.6% were very negative about the statement that mentors guide teachers to use ICT, with an average score of 2.15 on the scale. The findings from this part of the research show that Internet access, the number of computers, training and the syllabus and mentors' guidance are the main barriers teachers feel to be facing ICT implementation in secondary schools

**Table 16: Main barriers to ICT implementation**

Statement	Relative Frequency Distribution					Mean	Standard Deviation
	Agree	Agree	Neutral	Disagree	Disagree		
Teachers' ability supports ICT implementation	26.8	52.9	12.1	7.8	0.3	3.98	0.85
The syllabus explains how to use ICT in class	5.3	14.0	16.9	49.5	14.3	2.47	1.06
Our dept. prefers using traditional methods	8.9	34.7	13.2	37.6	5.6	3.04	1.14
Available computers cover teachers' needs	2.6	4	7.9	51.7	33.8	1.90	0.89
Internet access is available for all teachers	1.3	8.2	6.6	47	36.8	1.90	0.93
Students have basic necessities to use ICT	15.2	55.6	14.6	10.9	3.6	3.68	0.98
I have basic knowledge of ICT in teaching	16.4	55.6	15.8	11.2	1	3.81	1.37
My dept. provides training for ICT implementation	3	10.6	14.5	57.4	14.5	2.3	0.94
There is Internet access in my class	0.6	2.6	6.9	43.6	46.2	1.73	1.38
Mentors guide teachers in how to use ICT	1.3	9.6	13.0	54.5	21.6	2.15	0.91

### **Impact of policy of the MoE and other socio-political dimensions on ICT**

This part of the questionnaire was intended to explore teachers' views on the impact of the MoEs policies and other socio-political dimensions of the MoE's plans to implement ICT in government schools. Findings for this part of the questionnaire show that respondents were positive towards the impact of those dimensions on the MoE's plans, with an average rating of 3.498 on a 5-Likert scale and a standard deviation 0.467 (see Table 22). Table 17 below presents the statistical summary measures in the form of relative frequencies, mean and standard deviations for each research question related to this dimension.

Establishing the details of the teachers' responses to the research questions related to this area of the research in Table 17 could be useful. In fact, 33.6% of respondents were very positive and 25.7% were positive towards the statement claiming that the delay in the development strategy of education is due to political debate between the government and National Assembly. The average was 3.81 on the 5-Likert scale. In relation to the statement that frequent change of the Minister of Education harms education in Kuwait, 27.5% of the respondents were very positive and 48.7% were positive, with an average of 4.07 on the scale. Furthermore, 24.3% of the teachers were very positive and 40.5% were positive about the statement that conflicts among educational groups in the Ministry of Education delay ICT implementation and the average was 3.82 on the 5-Likert scale and 24.3% of respondents were very positive and 36.3% were positive in relation to the statement that all departments in the Ministry of Education support ICT with an average of 3.42 on a 5-Likert scale. Next, 48% of teachers were positive and 21.8% were very positive about the statement claiming that ICT implementation projects have been announced for a long time, but only a small number of these projects have been executed, with an average of 3.83 on the scale. Teachers were positive with an average of 3.38 on 5-likert scale about the

existence of instability due to frequent change of managers in the MoE and 3.27 about the existence of an influence of political pressure on the MoE. Respondents were positive, with an average of 3.74 on a 5-Likert scale about teachers' not participating in ICT planning and 3.15 about the statement that political environment influences ICT implementation.

**Table 17: Policy of MoE and other socio political issues related to ICT**

Statement	Relative Frequency Distribution					Mean	Standard Deviation
	Agree	Agree	Neutral	Disagree	Disagree		
Delay of development strategy is due to political debate between government & National Assembly	33.6	25.7	31.3	6.9	2.6	3.81	1.06
Frequent change of Minister of Education harms education	27.5	48.7	16.2	6	1.7	4.07	2.47
Conflicts among educational groups in the Ministry of Education delay ICT implementation	24.3	40.5	28.4	6.4	0.3	3.82	0.88
All departments in the Ministry of Education support ICT	14.3	36.3	29.7	16	3.7	3.42	1.03
Cooperation among different departments in MoE supports ICT implementation	19.2	22.2	35.4	18.2	5	3.32	1.12
Lack of implementation of ICT projects	21.8	48.0	22.8	6	1.3	3.83	0.88
Noticeable instability due to frequent changes of managers in MoE	6.9	34.3	49.2	8.9	0.7	3.38	0.77
Noticeable influence of political pressure on MoE	8.7	21.0	60.0	9.7	0.7	3.27	0.77
Teachers are not participating in ICT planning	29.7	34	21.3	11	4	3.74	1.11
Political environment in Kuwait influences ICT implementation.	8.2	24	46.1	17.8	3.9	3.15	0.94

It was noticeable that some teachers were not very aware about some of the political impact of some items in this part of the questionnaire and preferred to select the "Neutral" response. The reason behind this could be the fact that 70% of English language teachers in Kuwait are non-Kuwaiti teachers and may not intensively follow the political situation in Kuwait. Nonetheless, this part reveals that participating teachers think that unstable policies and weak management by the MoE and political conflict among different political parties in Kuwait have a strong negative impact on ICT implementation plans and execution.

#### 5.2.2.4 Part four: Requirements for Better ICT Implementation

This part of the questionnaire was intended to explore teachers' views regarding the most important requirements that need to be available for better ICT implementation in government schools. The questions cover school facilities, teachers' development, students' requirements and other related necessities. Teachers were asked to rank different requirements for ICT implementation from 1 to 5 according to their importance from their point of view. Number 1 is extremely important and number 5 is the least important and teachers were allowed to rank more than one requirement with the same rank. Teachers could rank three requirements as (1 extremely important) and two requirements as any other number from 2-5. Therefore, the percentage of frequency was calculated depending of the number of times the item was selected by participants. For example, the item "providing schools with hard and software" in Table 18 below was ranked by 86.5% of the teachers as the first requirement for better ICT implementation.

**Table 18: School related requirements**

<b>Statement</b>	<b>Percentage Frequency</b>	<b>Rank</b>
Providing school with hard and software	86.5%	First
Providing sufficient network & Internet for school	17.4%	Third
Availability of technical support*	3%	Fourth
Including ICT in curriculum	28.5%	Second
Applying ICT in daily school communication	28.5%	Second

This part tried to investigate teachers' opinions about the most important requirements in relation to the schools' infrastructure, including hardware and software. This also addresses the importance of Internet access, technical support and inclusion of ICT activities in the curriculum. When looking at Table 18 above, it can be noted that providing schools with hardware and software is in first place and was ranked by 85.5% of the teachers as the most important requirement for schools. With a huge margin of difference, both including ICT into the curriculum and applying ICT in daily school communication were ranked in second place, as only 28.5% of the respondents ranked them as the most important requirement for schools. Providing schools with sufficient network and Internet access came in at third place, as only 17.4% of respondents ranked it as the most important requirement for schools. The availability of technical support came last, as only 3% of respondents ranked it as the most important requirement for schools. The first time I saw the responses to this question about school requirements I was expecting that Internet access and technical support would be considered to be very important requirements, but I was surprised because, according to teachers' responses, they are the least important aspect with very low percentages, especially technical support. Sometime later, and after discussion regarding this question with some of the interviewed teachers, I found a justification for those responses. As schools are currently equipped with only one computer per department and teachers use it only for typing exams and some exercises, they are not aware of the importance of technical support simply because they do not have computers to use or to repair. Users only become aware of the importance of technical support after they have a computer, use it and face some problems. This also justifies the fact that 85.5% of respondents ranked providing schools with hardware and software in first place as the most important requirement for schools.



The teachers' development is the core of the educational process, therefore, this part of the questionnaire tried to investigate teachers' opinions about the most important requirements in relation to their development. Areas of questioning were the compulsion behind ICT implementation, provision of information about ICT implementation, provision of continuous training and including ICT in teacher training programmes.

**Table 19: Requirements for teachers' development**

Statement	Percentage Frequency	Rank
Obligation to use ICT	3%	Fifth
Providing adequate information about ICT	29.2%	Second
Providing continuous training	54.8%	First
ICT knowledge to be condition of employment	22.7%	Fourth
ICT in teachers' preparation programmes	23.4%	Third

When looking at Table 19 above regarding requirements for teachers' development, it can be noted that providing continuous training is first place and was ranked by 54.8% of the teachers as the most important requirement. Providing teachers with adequate information about ICT came in at second place, as 29.2% of respondents ranked it as the most important requirement for teachers' development. Including ICT implementation in teachers' preparation programmes came third, as 23.4% of respondents ranked it as the most important requirement for teachers' development. Considering ICT knowledge to be a condition of employment took the fourth place, as only 22.7% of respondents ranked it as the most important requirement for

teachers' development. Obliging teachers to use ICT came last, as only 3% of respondents ranked it as the most important requirement for teachers' development.

Although literature and findings of the piloting part of this study showed that students have no difficulty to deal with new technologies, teachers were asked about requirements related to students. Teachers' opinions in this regard will help to the possibility of integrating students' development to support the ICT implementation process.

**Table 20: Students' requirements**

<b>Statement</b>	<b>Percentage Frequency</b>	<b>Rank</b>
Employ students' competencies in computer games educationally	27.9%	Third
Educate students about usage of ICT in education	31.1%	Second
Provide continuous training	60.7%	First
Encourage usage of ICT in earlier stages	22.7%	Fourth
Encourage communication with teachers using e-mail.	8.2%	Fifth

Table 20 above shows students' requirements and it can be noted that, similar to the earlier question about requirements for teachers' development, provision of continuous training came first and was ranked by 60.7% of the teachers as the most important requirement. This shows the importance of providing continuous training for teachers and students from the teachers' point of view. Providing students with adequate information about ICT came in second place as 31.1% of the respondents ranked it as the most important requirement for students. Employing student's competencies in computer games educationally came third, as 27.9% of respondents ranked it as the most important requirement for students. Encouraging the usage of

ICT in earlier educational stages was fourth, as 22.7% of respondents ranked it as the most important requirement for students. Finally, encouraging communication with teachers using e-mail came in the last place, as only 8.2% of respondents ranked it as the most important requirement for students.

By the end of this part of the questionnaire about the main requirements for better ICT implementation, teachers were asked about other ICT related issues. Those issues included educational rules, ICT information, political and financial support, expert management and ICT planning.

**Table 21: Other related requirements**

<b>Statement</b>	<b>Percentage Frequency</b>	<b>Rank</b>
Changing educational rules and regulations	17%	Third
Providing information about the importance of ICT	28.9%	Second
Providing political and financial support	59.7%	First
Using expert management	13.1%	Fourth
Short and long term planning for ICT implementation	5.3%	Fifth

Table 20 above addresses the importance of other requirements related to ICT implementation in secondary schools from the teachers' point of view. Political and financial support was ranked by 59.7% of the teachers as the most important requirement. Information about the importance of ICT came in at second place, as 28.9% of the respondents ranked it as the most important requirement in this group. Changing educational rules and regulations was third, as 17% of respondents ranked it as the most important requirement. Unexpectedly, using expert management was in fourth place, as only 13% of respondents ranked it as the most important requirement in this group. Finally, short and long term planning for ICT implementation came last, as only 5.3% of respondents ranked it as the most important requirement in this group. The reason teachers considered management and planning to be of lower importance were discussed later with some interviewed teachers and they explained

that it could be due to the nature of the role teachers practice in Kuwaiti schools, where they are limited to their positions as teachers and are not invited to participate in planning and decision making. Interviewed secondary school teachers claimed that decisions come from the MoE and the teachers' role is limited to implementing those decisions. Some interviewees mentioned an example of the new books for English and Mathematics for years 2 and 3, where the new books were presented to schools at the beginning of this educational year without the teachers having seen those books before school started. The Ministry of Education, two months after starting teaching those books and after parents' complaints, is inviting head teachers from each school to seminars to explain how to deal with these new books.

#### 5.2.2.5 Summary measures of the major research areas

The main dimensions have been examined, and each dimension has been considered as one variable by calculating the average of the number of questions that constitute the dimension. Three new variables were used to assess the respondents' attitudes to each dimension. Table 22 provides a statistical summary measure for each dimension:

**Table 22: Descriptive statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Views towards ICT	293	2.00	4.70	3.6096	.36869
Main influential factors on ICT	286	1.50	4.80	2.6955	.44950
Impact of policy of MoE and other socio-political factors	272	2.18	4.55	3.4983	.46689
Valid N (list wise)	249				

As shown in Table 22, the respondents' views about the usefulness of ICT were above average (3.6573, on a 5-Likert scale, with a standard deviation of 0.369). Regarding the current main influential factors on ICT implementation, the

respondents were less perceptive than average (2.696 on a 5-Likert scale, with a standard deviation of 0.45). The respondents were positive towards the socio-political dimension, with an average rating of 3.498 on a 5-Likert scale and a standard deviation of 0.467. This measure demonstrates an important indication, which is that teachers are enthusiastic about ICT implementation and have positive expectations about the socio-political impact on ICT. It also informs us that the teachers are not very satisfied with the current conditions of ICT implementation in schools.

Next, a one-sample Kolmogorov-Smirnov Test was also conducted to test the validity of the normality assumption of the three dimensions, as shown in Table 23.

**Table 23: One-sample Kolmogorov-Smirnov test**

		Believe ICT	Conditions	Sociopolitic
N		293	286	272
Normal Parameters <sup>a, b</sup>	Mean	3.6573	2.6955	3.5117
	Std. Deviation	.62141	.44950	.52225
Most Extreme Differences	Absolute	.208	.143	.078
	Positive	.208	.143	.064
	Negative	-.165	-.105	-.078
Kolmogorov-Smirnov Z		3.563	2.415	1.288
Asymp. Sig. (2-tailed)		.000	.000	.072

a. Test distribution is Normal.

b. Calculated from data.

The Kolmogorov-Smirnov test for normality was employed to check whether the three major research areas are normally distributed in order to apply the appropriate statistic test. The outcome revealed that none of the three major research variables exhibits normal behaviour. Therefore, in subsequent analysis, non-parametric statistical analysis will be used to make some conclusions regarding the research questions.

The following section is devoted to testing the three main issues: teachers' views regarding ICT, current conditions of ICT implementation and socio-political influence against demographic levels. Due to the lack of normality, non-parametric

methods of inference will be utilised to test whether significant differences exist between different demographic levels for each of the three major issues. In the case of two groups, the Mann Whitney test for two independent groups will be employed. Any case with more than two independent groups will be assessed by the Kruskal-Wallis test. Table 24 presents the result of these tests.

**Table 24: Testing the significance between personal characteristics**

Demo-graphical Variables	Demo-graphical Levels	Teachers' Views regarding ICT		P-value	Conditions of Implementation		P-value	Socio-political Influence		P-value
		Mean	SD.		Mean	SD.		Mean	SD.	
Location	Asima	3.67	0.31	0.023*	2.57	0.56	0.506	3.56	0.42	0.000*
	Hawally	3.52	0.91		2.64	0.40		3.23	0.48	
	Ahmadi	3.66	0.29		2.79	0.48		3.72	0.69	
	Farwaniya	3.71	0.62		2.75	0.44		3.47	0.43	
	Jahra	3.83	0.86		2.68	0.32		3.69	0.37	
	Mubarak Al-Kabeer	3.59	0.31		2.69	0.49		3.40	0.42	
Gender	Male	3.61	0.60	0.195	2.75	0.45	0.054	3.54	0.50	0.056
	Female	3.71	0.65		2.64	0.45		3.48	0.55	
Nationality	Kuwaiti	3.66	0.34	0.295	2.66	0.36	0.121	3.76	0.54	0.000*
	Egyptian	3.66	0.74		2.79	0.53		3.41	0.51	
	Syrian	3.74	0.95		2.61	0.38		3.54	0.45	
	Others	3.56	0.27		2.56	0.38		3.23	0.35	
Attended ICT Course	Never	3.51	0.38	0.236	2.62	0.39	0.658	3.34	0.45	0.060
	During Last 2 Years	3.72	0.81		2.75	0.49		3.48	0.48	
	During Last 5 Years	3.62	0.42		2.68	0.45		3.59	0.59	
	More than 2 Years ago	3.78	0.75		2.63	0.35		3.57	0.45	
Computer Ownership	Personal	3.24	0.55	0.000*	2.77	0.52	0.168	3.28		0.084
	Shared	3.70	0.62		2.70	0.43		3.54		
	Have no Computer	3.62	0.18		2.27	0.60		3.36		
Internet	Yes	3.64	0.57	0.002	2.74	0.45	0.018	3.58	0.54	0.000*



* There are significant differences between levels at < 0.05. As	Access	No	3.72	0.75		2.57	0.43	*	3.28	0.4
	Local Network	Yes	3.63	0.55	0.36	2.77	0.42	0.000	3.56	0.5
		No	3.72	0.70		2.59	0.47	*	3.44	0.4
	General Use of ICT	Advanced	3.51	1.05	0.268	2.62	0.48	0.158	3.34	0.3
		Intermediate	3.72	0.60		2.75	0.41		3.48	0.5
		Limited	3.62	0.26		2.68	0.52		3.59	0.4
		Don't Use	3.78	0.52		2.63	0.55		3.57	0.5

indicated, there are significant differences between the views and opinions of teachers from different educational areas regarding ICT. Although they are all positive, the views of teachers from the Jahra educational area are very positive, followed by those of teachers from the Farwaniya area. The Asima area is next, followed by Ahmadi and then Mubarak Al-Kabeer. Finally, the views of teachers from the Hawally area are the least positive.

There are also significant differences between the opinions of teachers from different educational areas regarding the influence of socio-political dimensions. Again, although they are all positive, the opinions of teachers from the Ahmadi educational area about the influence of socio-political dimensions are very positive. The Jahra educational area comes next, then the Asima area, followed by Farwaniya and then Mubarak Al-Kabeer. Finally, the opinions of teachers in the Hawally area are the least positive. This dimension seems to be related to the Kuwaiti community and most Kuwaiti teachers are in Ahmadi and Jahra educational areas; therefore, the opinions of teachers from those two areas are more positive than those of teachers from other areas.

As indicated, there are also significant differences between the opinions of teachers from different nationalities regarding the influence of socio-political dimensions.

Even though they are all positive, the opinions of Kuwaiti teachers are very positive, followed by the Syrians, then Egyptians, followed by teachers from other nationalities. As explained earlier, socio-political dimensions are strongly related to the Kuwaiti community; therefore, the opinions of Kuwaiti teachers are more positive regarding the influence of these dimensions than the opinions of teachers from other nationalities.

Moreover, there are also significant differences between the opinions of teachers who have different levels of access to computers and their opinion regarding ICT. Although they are all positive, the beliefs of teachers who share computers with other colleagues about ICT implementation are very positive, followed by teachers who do not have access to a computer. Unexpectedly, teachers who own personal computers come last. This unexpected finding is explained during interviews with teachers who have been implementing ICT in their teaching. Some of the teachers claim that their ICT implementation is limited because they need an integrated ICT environment that supports successful use of new technologies in the classroom. (TU.3) asserted, *"the real ICT implementation will need a comprehensive development of many factors in school and outside school"*. This understanding of the current ICT situation and the requirements of the whole ICT environment by teachers who have personal computers and are already using ICT could indicate why they are less positive than other teachers are about ICT implementation. Teachers who own personal computers are less positive about the current readiness of the school environment for ICT implementation because they are more aware about current complications and requirements in ICT than other teachers, who do not have personal computers and are less ICT aware. The data also reveals significant differences between the opinions of teachers who experience different levels of Internet access and conditions of ICT

implementation. Although they are all negative, relative the opinions of teachers who do not have Internet access are more negative than those who do.

It can also be noted that there are also significant differences between teachers' opinions in relation to the influence of socio-political dimensions when correlated with their Internet access. They are all positive; however, teachers who have Internet access are more positive than those who do not. A local network was found to be exactly the same as Internet access in relation to conditions of ICT implementation and socio-political dimensions.

Finally, there are also significant differences between the opinions of teachers with regard to the general usage of ICT and the influence of socio-political dimensions. Again, although they are all positive, the opinions of teachers with limited usage of ICT about the influence of socio-political dimensions are very positive. Teachers who do not use ICT come next, then teachers with intermediate usage of ICT. Finally, teachers with advanced usage of ICT are the least positive. This is later justified in the interviews that teachers with advanced usage of ICT and regularly follow of ICT related issues, are more aware about the influence of the socio-political dimensions than teachers who are limited in their ICT use.

**Summary:**

After exploring the research area and identifying the important related issues through the literature review and the piloting part of the study, it was decided to undertake this questionnaire with a large number of English language teachers. The aim of this questionnaire, in particular, was to investigate the key areas related to the main research question about barriers to the implementation of ICT in English language classes in Kuwaiti secondary schools. This questionnaire investigated school readiness in relation to school infrastructure, technical support, curriculum and teachers' ICT competences. It also questioned policies and strategies adopted by MoE regarding ICT implementation. Teachers' views with regard to ICT implementation were also investigated. It also investigated teachers' views about the main current barriers to ICT implementation. This questionnaire also investigated impact of socio-political dimensions on ICT implementation. Finally, it addressed teachers' views about the requirements for better ICT Implementation.

The findings of this part of the study are very important to the main questions of the research and explain many important research issues. Firstly, it revealed that, although a large amount of government spending is assigned to education, ICT infrastructure in government secondary schools is still not adequate in supporting ICT implementation. Findings show that schools are still not equipped with enough numbers of computers, Internet access and technical support. Teachers assert that schools are still not ready for ICT implementation in relation to training, the syllabus and ICT guidance by mentors. Teachers consider the lack of ICT hardware and software in government schools as one of the basic difficulties facing school ICT development.

In relation to teachers' general competencies in using new technologies, the findings of this part of the research have confirmed what was investigated in the exploratory

part of the study. The findings show that teachers' general usage of computers and Internet has now developed rapidly when compared with similar studies carried out a few years ago in other locations in developed countries, such as those conducted by Cuban (2001) and Tearle (2003). This part of the study shows that around 77% of the respondents describe their ICT competence as advanced or intermediate and around 78.3% of the teachers have attended at least one ICT course during the last five years. In relation to teachers' opinions about ICT implementation, this part of the research reveals that most teachers have very positive opinions regarding ICT implementation and positive views about students' ability to use ICT for their learning processes. However, the findings of this questionnaire reveal that the participating teachers think that unstable policies and weak management by the MoE and political conflict among different political parties in Kuwait have a strong negative impact on ICT implementation plans and execution.

Finally, when looking at successful ICT requirements from the teachers' point of view, the findings show that development of school infrastructure and readiness for ICT implementation is a basic requirement. In addition, teachers' preparation and provision of continuous training for teachers and students are considered as the principle important requirements for ICT development, in addition to providing teachers and students with adequate information about ICT implementation. Political and financial support are also considered among the most important requirements for ICT implementation in government secondary schools. The findings also show that teachers do not participate in the decision-making process in the MoE and indicate that decisions come from the MoE and the teachers' role is limited to implementing those decisions. The findings concluded that the teachers' opinions about the usefulness and importance of ICT is above average; however, teachers think that the current conditions in the educational environment in government secondary schools

and the MoE do not support ICT implementation. They also think that socio-political dimensions have a major impact on ICT implementation in government secondary schools.

### 5.2.3 Findings from the Interviews

#### Introduction

This part of the research is considered to comprise the main body of the investigation. Many issues related to barriers of ICT implementation in government secondary schools in Kuwait have been dismantled and investigated in order to attain a sensible understanding and interpretation of the investigated phenomenon. Themes discussed in these interviews (Appendix 3) are the main issues of research including readiness for ICT implementation, main difficulties facing ICT implementation, teachers' views regarding ICT, strategies and decision making in the MoE, socio-political issues related to ICT and, finally, the requirements for better ICT implementation. Interviews from this part of the study have extensively questioned those issues in light of the literature review, findings from the piloting part of this study and, finally, findings from the teachers' questionnaire conducted in this part of the research.

The initial idea for this part of the study was to implement a semi-structured type of interview; however, in light of the information collected from the teachers' questionnaire issued in the piloting part of this research, the idea evolved into interviews based on open-ended questions. This decision was made to provide participants with enough scope to go deeper in their analysis of different issues related to barriers against ICT implementation and to express their opinions towards those issues freely and without any obstruction. Kvale (2009) asserts that a *“qualitative interview is a key avenue for exploring the ways in which subjects experience and understand their world. It provides a unique access to the lived world of the subjects, who in their own words describe their activities, experiences and opinions.”* The notion of relaxing the interviewee and giving her/him the space to freely discuss and describe all her/his knowledge, experiences, emotions and opinions

towards the discussed themes does not minimise the implicit control of the interview. An interview guide, including main research questions, was followed at all times during all interviews to maintain the research thematic coverage and the leadership of the conversation in order to avoid diversion from the investigated issues.

Preparation of the frame and the structure during the set up stage of the interviews was crucial, as were the fundamental processes that facilitate undertaking, transcribing and analysing the interviews. I reminded myself that all stages of the interview process need to be kept in mind at all times including the themes, the type of questions, timeframe, transcription, analysis and reporting. In addition, the equipment used during each interview included a high quality tape recorder, an interview guide and pen and paper for noting any noteworthy visual expressions. Ethical issues, the stages of an interview, a relaxed environment and the ability to be a good listener and follower are also issues that were taken into consideration during interviews. All interviews proceeded smoothly and the majority of the 15 interviewees were very relaxed and conveyed their knowledge and experiences freely. However, a few of the teachers and educators in the MoE spoke more freely about the policies of the MoE after the tape recorder was turned off. After each interview, a short summary was written to cover the most important aspects of the interview including any notes related to the interviewee's body language and facial expressions. Due to time limitations, six of the interviewees were shown my interpretation of what was said in the interviews about the main themes of the investigation in order to double check my precise understanding of their statements.

Transcription was a very difficult part of the interview process. Although I used a high quality tape recorder and ensured it was positioned close to the interviewee so that the recording quality was very good, transcribing 45 or 60 minutes of conversation was a very stressful process. I transcribed six interviews myself and



found it to be a very time consuming procedure at a very critical stage of the research when I needed the time. I therefore asked my wife to assist me in this process by finishing the transcriptions of the remaining interviews; she worked hard and finished the other transcriptions within a few days. I reviewed all 15 transcriptions myself by comparing them with the tapes and adding any missing words whilst noting any important pauses, sighing, laughter or change in the mode of intonation.

### **Interview analysis technique**

At the beginning of the researcher's interest in the ICT research area, the factors influencing ICT implementation in government secondary schools were expected to be centred on teachers' ICT competences and availability of computers in schools. Although the researcher is considered as a participant at this research, as he worked in the same context for many years, the influential factors hindering ICT implementation have not completely determined until the achievement of teachers' and educators' interviews accomplished at this main study. The formulation of the thematic areas has gradually formulated during the long course of this research. It has started with the researcher since he started asking why teachers are not implementing ICT during their teaching. The initial literature review did not give enough answers to the Kuwaiti situation as the majority of the literature is about different contexts in different periods of time. However, literature showed that barriers of ICT implementation are more complicated than the researcher's expectations about teachers' ICT competences and availability of computers. Literature portrayed general guidelines about what may obstruct ICT implementation in secondary schools. Nonetheless, the researcher kept suffering from the lack of the Kuwaiti literature related to ICT implementation.

Despite limitation of the pilot study executed before this study, it helped, with the global and some Arabic literature, to develop the thematic areas of this research and interact with the researcher's knowledge. The formulation of thematic areas of this research was gradually occurred during the course of pilot study and this study. When looking at the document evidence, questionnaire and the semi-structured interviews implemented in the pilot study, it is noticeable that the main two themes about lack of computers and teachers competences have been developed to have some more sub-themes and other new theme. Sub-themes like teachers' personal and educational competences and sub-themes related to internet access, technical support and educational software have emerged from documentary research open-ended questions of questionnaire and interviews. For example students and teachers using ICT raised the impact of having a positive belief and enthusiasm about ICT as they use ICT without having any training except their personal interest in ICT implementation. Another theme has emerged during the pilot study from documents, literature and interviews about the importance role of having supportive educational and ICT MoE and school policy.

At the planning stage of this research, it was planned to implement a semi-structure interview however it was decided to use open interview to give the expert participants the chance to give all their knowledge about the research problem freely. Open interview helped to avoid impact of literature and prior findings of other research tools on interviews. Literature can be used as 'data' and constantly compared with the emerging categories to be integrated in the theory (Glaser 1992). It was considered to use literature and prior knowledge and experience of the researcher to inform the development of the categories but they are not forced to fit the literature or create categories.

Analysis of qualitative data is a complicated practice that heavily relies on the awareness of the researcher/interviewer that he/she must be prepared for the interview analysis before, during and after the interview (Creswell, 2003; Kvale, 2009). In order to reveal, describe, and interpret the meanings expressed and constructed by and with the interviewees, transcriptions of all interviews were coded and categorised, (Glaser & Strauss, 1967). Initially, important sentences that represent other words in the text and are related to a particular general issue of the conversation were coded manually using a highlighting marker and notes in the margin of the hard copy of the transcripts. During this process, explored views are cross-indexed with the rest of the data to identify explicit or hidden similarities. This constant comparison method enabled new emerging codes to be compared with existing codes and a conceptual link to be established between them. Afterwards, codes were divided into six categories to represent the six main thematic areas of the research: readiness for ICT implementation, main difficulties facing ICT implementation, teachers' views regarding ICT, strategies and decision making in the MoE, socio-political issues related to ICT and, finally, the requirements for better ICT implementation. The meaning of long transcribed statements was reduced to a few simple categories and then condensed into briefer statements and prepared for the interpretation stage. Finally, a vice-versa process of expanding the text took place throughout a hermeneutic interpretation stage that goes beyond what is directly said in the text to broader, unapparent structures and parallels of meaning (Kvale, 2009).

The findings from this important part of the study are presented according to the major themes investigated. Themes of investigation will be presented as headings for each section of this analysis, followed by the questions asked about each theme during interviews. Following the questions are tables showing the responses of

participants within each category. Finally, a description of responses to each question is provided.

The formulation of the research themes and sub-themes was a continuous interacting and interchanging process among researcher, as part of the context, participants and literature. The main six areas influencing ICT implementation in government secondary schools and many sub-themes under each area have been obviously determined during the interviews conducted with teachers and key educators during this main study. In addition, some of the emerged sub-themes, such as implementation of the new curriculum containing ICT activities and work environment in Kuwait could be treated as independent themes; however the limitation of time of this study could not enable to go deeper in those sub-themes and left them for future research.

### 5.2.3.1 Readiness for ICT Implementation

#### 1. Infrastructure

**How would you evaluate the readiness of schools for ICT in relation to infrastructure?**

Table 25: Current readiness of schools' infrastructure

Hardware & software	<ul style="list-style-type: none"> <li>- Computers are available for teachers in all departments</li> <li>- Main software packages (Office, SPSS, Photoshop.....) are available in all schools</li> <li>- At least one presentation room is available in each school</li> <li>- Schools have at least, one computer room for students (mainly used by IT teachers)</li> <li>- Limited educational software – software not updated regularly</li> <li>- No computers in classrooms</li> </ul>
Networks	<ul style="list-style-type: none"> <li>- New buildings prepared with network installations</li> <li>- Old buildings gradually prepared</li> <li>- Few schools have networks</li> <li>- Very limited usage of networks</li> <li>- Networks only connected with students affairs department to register students' grades</li> <li>- Schools networks are not yet connected with each other or with the MoE network</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>- No Internet access in classes</li> <li>- Limited internet access in educational departments</li> <li>- Drop of cost of wireless connectivity in 2008/2009 encouraged some teachers to use their personal laptops in schools</li> <li>- Some schools started using wireless Internet</li> </ul>
Technical support	<ul style="list-style-type: none"> <li>- Very limited technical support available in school</li> <li>- Technical support from the educational area takes a very long time</li> <li>- Sometimes teachers and students solve some technical problems themselves</li> </ul>

Readiness of schools for ICT implementation in relation to infrastructure is a very important dimension of the requirements for ICT implementation that needed to be deeply investigated in the light of findings generated from the teachers' questionnaire conducted in this main part of this study. Teachers who participated in these interviews were very clear about the readiness of the infrastructure of the secondary schools in different educational areas. Their discussion of the infrastructure of their

schools revealed the current situation of readiness of secondary schools in four main infrastructure categories: hardware/software, networks, connectivity and technical support.

In relation to hardware/software readiness, teachers assert that computers are available for teachers in all educational departments and are equipped with major software such as Word, PowerPoint, Flash, Access, Photoshop, Excel, Outlook, Explorer, Google, Net Support, Dictionaries etc. 4 out of 10 teachers claim that software is not upgraded regularly and there is a lack of educational software. Teachers also confirm that a presentation room (a room equipped with computer, data projector and in some schools a white board) is available for teachers' needs, in addition to one or two mobile data projectors to be used in classes. However, 8 teachers out of 10 assert that this very limited number of data projectors does not support ICT implementation and they opine that each class should have its own data projector. One teacher (TU.1) confirmed the importance of equipping classes with permanent data projectors to support teachers' willingness to implement ICT when he stated that a *"lack of data show projectors frustrates us of using ICT... many times I changed my lesson plan or my planned class activities because I find the presentation room is busy and the mobile projectors are used by other teachers."* Haydn and Barton (2008, p.442) emphasise that availability of data projectors in ordinary classrooms is very important, as they will facilitate usual usage of ICT during daily teaching. Another teacher (TU.3) solves this problem by personal means *"I had bought my own data projector and kept it in my department in order to avoid changing my lesson plan due to the lack of data projectors"*. Teachers mention that all schools have 1-2 computer rooms, which are mainly used for IT and are rarely available for other subjects or teachers, including English language teachers. Teachers assert that computers are not available in classes.

In relation to the readiness of the networks, teachers in interviews confirm that new school buildings are fitted with network installations and old buildings are gradually prepared to be installed with networks. Teachers stress that few schools have networks and the only usage of those networks is to register students' grades in the Students' Registration System (SRS) available in the Students' Affairs Department in each school. Teachers confirm that schools' networks are not yet connected with each other or with the MoE network, although it has been announced several times since 2005 that the MoE is in the process of achieving this project. An expert from the Ministry of Education (ME.3) affirms that the reason for the postponement of this important project is a lack of coordination between different related bodies in the Kuwaiti government. She states that this project is strongly linked with the Ministry of Telecommunication and the delay is on their side and not from the MoE. She also states that *"MoE has signed some initial agreements to connect schools with each other and with MoE but due to bad coordination we decided to hold this project until we have a clear vision about the huge project of Ministry of Telecommunications to replace the old network used in Kuwait with the new fibre-optic network ... we hope that they will not take more time to start their project as this delay is affecting MoE plans."*

In relation to readiness for connectivity, teachers confirm that connectivity to the Internet is very limited and that no Internet access is available in classes and limited access is available in educational and administration departments of schools. Teachers consider limited access to the Internet in schools to be a major obstacle against the usage of new technologies, which must be addressed in order to support plans for ICT implementation. On the other hand, 7 teachers out of the ten state that ICT implementation has rapidly developed after the drop in cost of wireless connectivity at the end of 2008 due to the entry of a third mobile communication

company (Viva) into the Kuwaiti market. In order to win a share of the communication market in Kuwait, Viva has offered very competitive prices in all communication services including 24/7 Internet connectivity. This forced the other two communication companies (Zain and Wataniya) to revise all their prices and services to stay in the competition and keep their market share. The information provided by interviewees is supported by the Economic and Social Commission for Western Asia (ESCWA) report (2009, p. 7):

*"There are three mobile operators in Kuwait, namely: Zain, Wataniya and VIVA. The third license was given to VIVA after open bidding, and the value of the license amounted to 298 million Kuwaiti Dinars. The mobile telephone companies invested heavily in expanding their networks, which included the transition to the 3G technology and expansion of their infrastructure. These investments contributed to the increase of the quality and quantity of services provided, among which are: Internet connectivity, data transfer and reducing the cost of operating and using mobile telephones. This allowed them to provide promotional offers and increase their number of customers."*

This reduction in connectivity costs encouraged some teachers to use their personal laptops and Internet access in schools. One teacher (TU.4) asserts the benefits that people enjoy since 2008, due to the competition among the three mobile communication companies in Kuwait. He confirms, *"...monthly cost of mobile medium-speed Internet services has dropped from 35 KD per month in 2007 to 13.5 KD in 2008 – 2009 and lastly to 7 KD per month in 2010, this encourages me to use my personal laptop and Internet service in class for my students as I already have paid for a 24/7 connectivity for my personal use."* The same teacher (TU.4) also states that, *"Some creative schools administrations started benefiting from these internet offers and provide some of their departments with permanent wireless internet access*



*without waiting MoEs' slow plans and projects related to ICT infrastructure."* Other teachers state that school administrations have very limited petty cash provided by the MoE and cannot spend much on reliable wireless connectivity; therefore, they urge the MoE to avoid waiting for an unknown period of time for the Ministry of Telecommunication to finish its new fibre-optic network and provide schools with wireless Internet services through the private sector mobile communication companies.

In relation to readiness for technical support, teachers confirm that very limited support is available in schools. The educational aids available to technicians in school only consist of administrating educational instruments such as overhead projectors, tape recorders, TVs, video, data projectors etc. by handing them over to teachers and receiving them back into the educational aids store. They may repair minor malfunctions such as changing bulbs or fuses, but are not trained to deal with major repairs or computer hardware or software maintenance. A teacher (TN.3) confirms that a lack of technical support affects school resources when an instrument is out of order all the time. He states *"it is normal that you find a dusty 500 KD instrument which is out of order for a long period of time and nobody is using because of 5 KD spare part.... some instrument became out of date without being used more than one or two times due to small technical problems."* Currently, ICT problem solving or maintenance is undertaken by technical support available in Educational Areas or Administration of Information Systems in the headquarters of the MoE. Accessing technical support from Educational Areas and the MoE takes a very long time in terms of communication and coordination so teachers often have to change their lesson plans and cancel any ICT activities. One participant (ME.1) confirms that providing all schools with qualified ICT technical support is very expensive and not viable at this stage of time and the MoE is looking for other alternatives to overcome

this difficulty. He states, *"we have more than 700 schools and it will be difficult to employ 700 qualified ICT technicians, therefore MoE is planning to contract some technical support companies to provide the technical support to all schools whenever they need."* As those technical support companies will be located away from schools, teachers expect that complaints due to waiting for a long period of time for ICT problems to be solved will not stop. Teachers claim that, in some situations, some teachers and students solve some of the ICT technical problems themselves and do not wait for support from educational areas or the MoE, but they assert that the availability of permanent effective technical support in schools is a must for successful ICT implementation.

An evaluation of the current readiness of schools for ICT in relation to infrastructure shows that sound efforts and progress are slowly taking place through MoE and other related parties. However, many difficulties still obstruct ICT implementation in secondary schools. Teachers and other interview participants assert that hardware and software need to be increased and regularly updated. They also confirm that the availability and usage of networks in schools is still very weak and is limited to administrative issues such as students' grade registration. Although a drop in the prices of wireless connectivity through mobile communication companies in 2008 has encouraged some teachers to use their personal laptops and Internet accounts for their teaching, it remains a limited individual effort that needs to be adopted and supported by the MoE. Technical support is a major factor that teachers and other interview participants consider to be a crucial barrier that needs to be treated with great concern by decision makers in the MoE. They assert that without effective technical support ICT implementation may remain very limited and will rely on individual enthusiasm and technical experience.

## 2. Teachers' ICT Competence

### Are teachers capable to implement ICT?

Table 26: Teachers' competence to implement ICT

Teachers' preparation	<ul style="list-style-type: none"> <li>- Limited preparation for usage of ICT in teachers' colleges</li> <li>- Only two modules about general usage of computers and educational aids are taught in teacher training college.</li> </ul>
Teachers' training	<ul style="list-style-type: none"> <li>- The compulsory ICDL certificate was not enough to qualify teachers but it helped to introduce teachers to the world of ICT</li> <li>- Some teachers have obtained ICDL certificates, although they are not qualified, through corruption</li> <li>- Very limited training is provided for ICT implementation</li> <li>- Teachers still need more ICT training</li> </ul>
Teachers' self-reliance in ICT	<ul style="list-style-type: none"> <li>- Many teachers have computers at home</li> <li>- Some teachers have independently qualified themselves in ICT educational implementation</li> <li>- Many Internet websites are useful for ICT teachers' preparation</li> <li>- After the introduction of the new curriculum (2009/2010), teachers have no choice but to qualify themselves in ICT</li> </ul>

Teachers' readiness and qualification for ICT implementation is another important dimension of the requirements for ICT implementation that needed to be deeply investigated through interviews. An analysis of discussion about this dimension in interviews shows that participants classify teachers' readiness in three main categories: teachers' preparation, teachers' training and teachers' self-reliance.

In relation to teachers' preparation, teachers in interviews assert that the ICT preparation modules taught in teachers training colleges are not sufficient to qualify graduates of colleges of education to implement ICT in schools. They confirm that they only study two or three modules about general usage of computers and some other traditional educational aids during the whole four year academic course. Teachers claim that the current limited ICT preparation in teacher training colleges does not support teachers' ability to practice ICT implementation. This information is in accordance with findings from teachers' questionnaires and documentary research conducted prior to these interviews, during which ICT modules for students in

Kuwait University were found to be unchanged since 1993, namely Computers in Education and Media & Educational Technology.

This confirms that ICT development during the last seventeen years has not yet been included in students' preparation programmes in teacher training colleges. It also highlights the weak coordination among educational institutions in Kuwait in relation to ICT implementation, since ministerial resolution No. 359/2002, issued in August 2002, looks to be still neglected by teacher training colleges. Clause number six of this resolution confirms that the Under-Secretary of the Ministry of Education should inform teachers' preparation colleges about this resolution to enable them to undertake the required arrangements for the acquisition of the ICDL certificate for all graduates starting from academic year 2005/2006. However, until academic year 2010/2011 the modules' list of student of English language in college of education remained undeveloped in relation to ICT modules as it still provides the same ICT modules since 1993, which are Computer in Education and Media & Educational Technology.

In relation to teachers' training, participants in interviews assert that resolution 359/2002 taken by the MoE to make the acquisition of an ICDL certificate compulsory for all teachers working for the MoE is one of the most successful educational decisions. The ICDL certificate has helped to introduce teachers to the ICT world and has reduced the resistance to change that some teachers had in the past. Teachers are now almost convinced about the importance of introducing ICT in education, as it has become a part of people's daily social life. After the compulsory ICDL course, teachers no longer question the importance of ICT implementation in education, but muse over the best and most effective way to introduce it to education.

However, interviewees assert that obtaining certificates for ICDL and other ICT courses offered so far by the MoE are not sufficient to qualify teachers to implement ICT in the learning and teaching process effectively. Those training courses were not supported by actual practice in schools, as the curriculum and infrastructure of schools is not prepared to support ICT implementation. Teachers and other participants confirm that a very small number of enthusiastic teachers, relying on their limited personal resources and experience, are implementing ICT. Although of the positive impact of making ICDL certificate compulsory for all teachers, teachers reveal that corruption sometimes takes place during the process of training for ICDL. Some teachers obtained their certificate without really being qualified due to dishonesty in some of the authorised private institutions offering ICDL courses for teachers working in the MoE. One teacher (TN.2) claimed that he got the certificate without even going to the institute: *"many teachers got the ICDL without knowing much about computer depending on (mediator) or by just paying some additional fees to a key person in the institution ... frankly speaking, I got mine without knowing the address of the institution issued my certificate."* Teachers asserted through interviews that training for ICT implementation is very limited and 4 teachers confirm that the content of those limited courses has been quickly forgotten, as it is not practiced in classes. A teacher (TN.6) stated, *" I have taken some computer training long time ago and the last training I got was the ICDL course in 2007 ... unfortunately I face difficulties to do most of the ICT activities in the new English textbook implemented this year (2009/2010) because I forgot most of what I learnt.... I need to develop myself to be confident to use computers."* Interviewees concluded that, although the ICDL certificate is obtained by the majority of teachers working in the MoE, teachers still substantially need continuous general and specific ICT training to qualify them to implement ICT as a normal part of their daily teaching techniques.

In relation to teachers' self-reliance in ICT implementation, teachers in interviews affirm that most teachers have computers at home and many teachers have home and/or mobile Internet access. Some teachers try to qualify themselves in ICT implementation independently through the Internet by viewing materials that explain how to implement ICT in class. Some teachers use the Internet as a source of information for lesson preparation, audio and video materials, additional exercises, exams, and many different language activities. Teachers who already implement ICT in teaching are relying on their self-learning more than their previous preparation and training. Teachers who have not used ICT in class in the past have had to develop their ICT competencies in order to be able to perform the ICT activities detailed in the new English language curriculum implemented in 2009/2010. One teacher (TN.6) states "... *I need to train and develop myself to be confident to use computers.*" The fact that the new curriculum includes some ICT activities may support the plans of the MoE to implement ICT in schools as, in the past, 7 teachers out of ten interviewed have considered the lack of ICT activities in the curriculum to be one of the main obstacles preventing them from implementing ICT in class.

In conclusion, the evaluation of teachers' readiness for ICT implementation shows that teachers are still not well prepared for ICT implementation during their time in teacher training college. Documentary research conducted earlier in this study supports this conclusion, as a comparison between the programmes of academic year 1993/1994 and 2007/2008 show that students have been studying the same modules throughout that long period of time. The recent schedule for 2010/2011 also shows that students of the college of education in Kuwait University are still studying the same modules. Interview analysis also reveals that teachers' training is still below expectation and many teachers are still in need of additional intensive training. Interviewees assert that teachers' self-reliance is a very important element that could

support ICT implementation. Teachers who already use ICT are relying on their self-learning; indeed, teachers who are now planning to develop themselves to meet the new curriculum requirements must also rely on self-learning. Kessler (2007, cited in Etedali, 2009, p. 2) summarises that creativity, adaptation, formal preparation and "informal, ad-hoc methods of preparation" are very important factors towards successful ICT implementation. Interviews show that the MoE needs to increase the number of ICT training courses and to encourage teachers to consider creativity, adaptation, formal and informal preparation to develop their ICT competencies in order to participate in ICT implementation in government secondary schools.

### 3- Students' ICT Ability

#### Are students able to implement ICT?

Table 27: Students competence to implement ICT

General ICT competencies	<ul style="list-style-type: none"><li>- Most of the students have computers at home</li><li>- Many students have laptops</li><li>- Since 2008/2009 many students have wireless Internet access at home</li><li>- Many students have the new generation of smart phones</li><li>- Some students have e-mail accounts</li><li>- Some students are more experienced than teachers in computer and Internet usage</li><li>- Some students are experts in multimedia programs</li></ul>
Educational ICT competencies	<ul style="list-style-type: none"><li>- Students' educational implementation of ICT is very limited</li><li>- Some students have dictionaries with pronunciation features on their mobiles and computers</li><li>- Some students use the Internet as source of information</li><li>- Few students explore educational websites</li></ul>

In relation to students' readiness to implement ICT, interviews supported positive findings of questionnaires used for students and teachers in the pilot stages of this research addressing students' general ICT competencies. Participants in interviews assert that most students have computers at home and many students have laptops. Interviewees opine that, since 2008/2009, the number of students with land and wireless Internet access at home has strongly increased. This is due to an overall increase in Internet users in Kuwait, the total of which reached 34.7% of the population in 2009, according to the ESCWA report (2009, p. 9), and due to a drop in the cost of wireless Internet access resulting from competition between the three Kuwaiti mobile companies. Interviews affirm that many students possess one of the new generation of smart phones such as the iPhone, Blackberry and other 3G phones. Some students have e-mail accounts and very good experience in dealing with computers, the Internet and multimedia programs. Teachers using ICT confirm that some students are able to help teachers and other students to solve basic ICT technical problems.



In relation to students' educational competencies, interviews reveal that students' educational implementation of ICT is very limited. Nonetheless, some students have dictionaries with pronunciation features on their mobiles that they use for learning English language vocabulary. Many students use the Internet as a source of information for their general knowledge; however, some students also explore educational websites that are related to their learning process and some of their school homework activities.

#### 4- Curriculum Inclusion of ICT

##### Is the curriculum designed to include ICT implementation?

Table 28: Readiness of curriculum for ICT implementation

Curriculum before 2009/2010	<ul style="list-style-type: none"> <li>- Curriculum did not include ICT implementation</li> <li>- Teachers were not guided or encouraged to use ICT</li> <li>- Commitment to the traditional syllabus plan leaves no time to implement ICT</li> </ul>
Curriculum in 2009/2010	<ul style="list-style-type: none"> <li>- Curriculum includes limited activities for ICT implementation</li> <li>- Mentors have started to encourage ICT implementation</li> <li>- Teachers are now forced to use ICT to accomplish some English lessons activities in the new textbook</li> <li>- Many ICT activities in the new English language textbook are incompatible with a lack of computers and Internet access</li> </ul>

Interviews confirm that the English language curriculum had not been developed for seven years until educational year 2009/2010. The old curriculum did not include any ICT activities and the teachers' guide did not refer to the implementation of ICT in teaching methods. Teachers assert that the syllabus plan of the old curriculum did not instigate or encourage teachers to implement ICT; one teacher (TU.3) claims *"the old syllabus left no space or time for teachers to implement outside materials or activities and tied them to textbook, workbook and rarely tape recorders for some listening exercises."* On the other hand, the new English language series, (Over to You, by Longman), implemented in 2009/2010, includes some ICT activities and encourages

the self-learning process through different projects that students need to prepare and present at the end of each unit. A teacher (TU.3) states *"the new textbook includes some ICT activities that support collaborative learning and self-learning ... some WWW links are provided to encourage students to use outside sources of information ... students will be asked, independently or collaboratively, to do some out of class tasks and will need to use PowerPoint to present what they have achieved to their peers."* Teachers using ICT are generally happy about the new series, as it presents information in an attractive way and it is designed for the Kuwaiti environment, addressing real situations in the Kuwaiti community. However, 6 out of 10 teachers think that the new textbook for year ten students will be a bit tough, as it contains a huge amount of vocabulary. For example, the first two lessons in the new textbook include more than 20 new "heavy" words, while students studied the old textbook in year 9, which is completely different from this book and belongs to another series. All teachers in the interviews criticised the fact that the MoE did not provide teachers with their copies of the new series and teachers' guides until the start of educational year 2009/2010. Due to this lack of preparation time, the teachers were inconvenienced at the beginning of the educational year since they entered their classes with the new textbooks without having read and understood the methodology of this new series. Although 5 teachers claim that including ICT in the curriculum came very late and teachers are not yet well prepared or trained, they expect ICT learning activities in the new English language series could support the MoE's plans to implement ICT in secondary schools in the future. They state that all teachers are now forced to implement a minimum amount of ICT activities in their teaching.

## 5-Current ICT Implementation

### How do you currently implement ICT?

Table 29: Current ICT implementation

Implementation	<ul style="list-style-type: none"> <li>- Registration of students' results 10*</li> <li>- Writing documents (exercises - exams - hand-outs) 10</li> <li>- Presentations 8</li> <li>- English language dictionaries 6</li> <li>- Exploring educational websites 4</li> <li>- Surfing website of the MoE as source of information 4</li> <li>- SMS parents about school activities and students' affairs 4</li> <li>- English language exercises 3</li> <li>- Writing emails to colleagues and the MoE 3</li> </ul>
Applications	Word – PowerPoint – Flash - Access - Photoshop - Excel - Outlook – Explorer – Google - Net Support – Educational software (Hot potatoes)

\* Number of teachers implementing mentioned item

In relation to current implementation of ICT, the interviews show that educational usage of ICT for the learning and teaching process is still very limited. Most of teachers' implementation of ICT is still limited to applications such as Word, Excel and PowerPoint, which are used for writing documents or in-class presentations of specific language materials. One teacher encourages his students to download electronic dictionaries onto their computers and mobile phones so they have a permanent source of information for vocabulary development. Two teachers encourage their students to use applications such as Explorer and Google to explore and use some language learning educational websites to develop their language skills and complete some grammatical and linguistic exercises. 2 out of 10 teachers write e-mails related to their teaching process or educational issues. 2 of the interviewed teachers who are implementing ICT claim that their implementation is limited because they need an integrated environment that supports successful use of new technologies in class. (TU.3) asserted that, *"the real ICT implementation will need a comprehensive development of many factors in school and outside school"*. This deep

understanding of current situation of the whole ICT environment by teachers using ICT could explain findings of the teachers' questionnaire used in this part of the study. Findings of teachers' questionnaire showed that teachers who own individual computers are less positive about current readiness of schools environment for ICT implementation as they have more experience about ICT requirements than other teachers who do not have individual computers.

Nonetheless, the general usage of new technologies is gradually taking place in schools' environments. For example, registration of students' assessment results is completely implemented through the Students Registration System (SRS), whereby all teachers use computers to register results of their students in the system. 6 out of 10 teachers use the MoE website to access information related to the ministry's news and announcements, educational news, links to some schools' websites, ministerial decrees and some educational materials such as electronic versions of textbooks of each subject and some exam samples. Some schools have started using SMS to communicate with parents to announce any important educational issues relating to students or to call parents for school meetings and inform them of students' absence. Although e-mails are still considered to be an unofficial means of communication in Kuwait, the MoE has recently begun to encourage schools' administration to use e-mails for communications amongst schools and between different educational administrations in the headquarters of the MoE.

### 5.2.3.2 Main Difficulties Facing ICT Implementation

#### What mainly obstructs the implementation of ICT in secondary schools in Kuwait?

Table 30: Main obstructions of ICT implementation

School & MoE Policy	Lack of clear plan – need for stable policy - political corruption – government slow procedures nature – need for qualified stable management – authority for schools principals - unavailable/unreachable local and regional up to date ICT research - need to increase awareness of the importance of ICT in education – curriculum does not contain authentic ICT activities
School infrastructure	Shortage of necessary computers and data projectors- lack of educational software - lack of reliable and fast technical support – limited and slow Internet access in schools – lack of access to educational journals
Teacher related issues	Out of date teachers’ preparation programs - lack of continuous training – lack of awareness of ICT advantages - resistance to change
Work environment	Lack of encouragement of teachers using ICT effectively - weakness of teachers’ salaries and promotion plans- workload - employment of non-experienced teachers – allowing commercial home teaching – teachers’ timetables – managerial duties – teachers' assessment
Cost	High cost of permanent connectivity – cost of educational software – cost of educational journal subscriptions
Maturity time factor	<ul style="list-style-type: none"> <li>- Technology takes time to become a part of people's lives</li> <li>- Teachers still unable to follow the fast development of technology</li> <li>- Let technology come by itself</li> <li>- Imposing policy may not accelerate ICT implementation</li> </ul>

In relation to the main difficulties facing ICT implementation in secondary schools in Kuwait, interviewees claim that different factors and parties are jointly obstructing and slowing down that process. They assert that the main influential factors hindering ICT are policies of the MoE, school management, school infrastructure, teachers' related issues, work environment in schools, cost of permanent connectivity to the Internet and, finally, the time factor for the spreading of any new invention (maturity), called 'time lag' by Cuban. 9 out of 10 teachers claim that MoE

management is not qualified and used to be changed in short periods of time due to government corruption and pressure from political groups. ICT plans of the MoE are not clear and not based on local or regional educational research. They asserted that many of the educational development projects adopted in Kuwait are imported without adaptation from some developed countries and without considering the huge educational and social variations. One interviewee (MN.1) asserts that, *"educational plans in Kuwait are merely imported from some developed countries without taking into account social and educational differences between our country and developed countries."* A teacher (TN.5) also states that *"due to changing curriculum without enough in-depth studies, many teachers are facing difficulties in teaching the new syllabuses of English, mathematics and science implemented last year in some grades of intermediate and secondary schools."* Interviewees emphasise that the MoE and Kuwait University need to instigate and encourage local and regional educational research for their future development plans and to make them available for researchers, teachers and decision makers. They claim that government procedures to execute approved projects, including ICT projects, are very complicated and slow. Projects spend a great deal of time in different preparatory stages before being released for the tendering and execution stages. Teachers and other participants also affirm that educational policy in the MoE is not stable due to the impact of different political groups, as the MoE is influenced by political conflict taking place in Kuwait since the Kuwait liberation in 1991. This important hindering factor is elaborated later in section 6.2.3.5 of this chapter, which addresses the socio-political issues related to ICT implementation. Teachers also believe that MoE management is very central and not giving school principals any space of independence or chance for creativity. Teachers and other participants think that schools' management and the MoE are not supporting ICT implementation through increasing students' and

teachers' awareness of the importance of using ICT and developing curriculum which include more authentic ICT activities.

Interviewed teachers affirm that the adequate amount of computers, projectors, educational software and technical support are basic ICT infrastructure, which does not exist in schools now. They assert that the MoE has to provide schools with high-speed Internet access and teachers with subscriptions to educational professional journals. They believe that such access will encourage teachers to benefit from the huge amount of literature related to ICT implementation, which is available in those journals. In addition, the lack of reliable fast technical support is a major factor that hinders successful ICT implementation. Teachers claim that technical support is rarely available in schools and that many teachers need to wait for many days until their problems are solved by technical departments in educational areas or in MoE headquarters. They state that ICT implementation will remain limited without access to skilful and fast technical support. One teacher (TN.5) claims that, *"nobody should blame teachers for not using ICT without MoE providing teachers with the needed tools and knowledge."*

Teachers and other participants also consider out of date teacher training programmes and a lack of continuous teacher training to be major factors hindering ICT implementation. They claim that the MoE and teacher training colleges need to add more qualifying modules to the programmes of students preparing to be teachers. They also affirm that the MoE and school management need to offer more in-service continuous ICT training courses to develop teachers' ICT competencies. Participants claim that the MoE and school management have to increase teachers' awareness about ICT advantages in order to minimise their natural resistance to change.

Although an evaluation of the work environment was not included as a separate item in the interview guiding questions, it was mentioned as a distinct hindering factor by 8 out of 10 teachers during the interviews. Teachers claim that current aspects of the work environment and the assessment policy for teachers in secondary government schools are obstructing the ICT implementation process. For example, management in many schools are not effectively encouraging teachers who implement ICT, financially or even morally. One teacher (TU.3) states that *"although I use ICT since a long time I have never exceptionally promoted or appreciated ... .. I have to have special relationship with our principal to have an A in my assessment... ..our management has recently interested in ICT, only after the 2009/2010 new curriculum of English language"..* Some teachers in certain schools are suffering from heavy weekly timetables, as some teach for 20 hours a week, which gives them no time to prepare any ICT activities. 5 interviewees criticised MoE employment policy, as it employs inexperienced teachers from specific Arabian countries because will agree to work for low salaries. When those inexperienced teachers reach Kuwait they start providing very low quality private home classes in their free time in the evening (Al-Ramiz, 2009). A teacher (TU.2) claims that, *"salaries provided by MoE for non-Kuwaiti teachers are not attracting experienced teachers in some Arabian countries such as Jordan and Syria to leave their countries and come to Kuwait, consequently non-experience teachers accept to come to Kuwait relying on increasing their income from teaching weak students in private home classes."* Teachers feel that the MoE must revise teachers' salaries and employment policies and introduce a law that prevents teachers working for the MoE from giving private classes. Some teachers claim that busy timetables and the additional managerial duties that some teachers are asked to handle prevent teachers from having enough time to prepare ICT activities during their classes.



The cost of ICT elements such as equipment, software and Internet connectivity was not expected to be an issue in a very wealthy country like Kuwait where annual spending on education, since 2008, has exceeded two billion pounds per year. However this issue has been highlighted during interviews by 7 teachers, who opine that the cost of high-speed Internet connectivity and access to educational and professional journals and information resources is one of the major factors hindering ICT implementation in Kuwait. They claim that using computers, CDs, data projectors and other technologies without having permanent speedy access to the Internet, information resources and professional educational journals strongly limits ICT implementation. They believe that, although the MoE is gradually increasing the number of computers and data projectors in schools, it has not paid enough attention to Internet access in classes and computer rooms. At the same time, teachers trying to implement ICT confide that although they have used their personal laptops and data projectors for a long time they found it very costly to have permanent mobile fast Internet access. However, they declare that they are now benefiting from the entry of the new mobile company VIVA into the Kuwaiti telecommunication market in 2009, as competition between the three mobile companies (Zain, Watanya and Viva) has reduced connectivity cost and encouraged people to increase their ICT usage (ESCWA, 2009). Participants declare that a reduction in the cost of wireless and mobile connectivity could encourage ICT implementation in secondary schools in addition to minimising the impact of other hindering factors. Teachers using ICT claim that the cost of subscriptions to educational and professional journals and information resources is an important factor that hinders teachers from having the advantages of other teachers and educational experts worldwide. They claim that the MoE has to subscribe to those journals and information resources and provide teachers with access codes to encourage them to develop their ICT competence.

The impact of the time factor required for any invention to spread amongst communities to reach maturity was not included in the guidelines used for interviews; however, 6 participants insisted, during the interviews, that ICT would need a period of time to spread throughout communities and to become a part of people's daily lives. 3 of them even stated that ICT would need more time than usual for other inventions introduced to humanity. An MoE expert (ME.2) who participated in the interviews claims that, "*not like fridge, car, TV or telephone, computers and internet (ICT) are inventions that need users to know and to do many things before being able to use them, therefore we should be patient and not to expect that all people will master them fast.*" Additionally, another participant claims that ICT will need more time to mature and to be usable in communities because ICT is not one piece of equipment or software, but comprises many pieces of equipment and software programs that are developing very fast. When one learns how to use the telephone or TV, it only takes one or two repetitions of the instructions, but with ICT it is necessary to learn information from different parties and keep learning all the time to keep up to date and to be able to use new technologies. On the other hand, 4 other participants think that time maturity/lag will be shortening faster than what we may expect with the new generations of computerised simple and usable phones. They believe that the simplicity of the new computers and programmes with social networks have massively spread ICT among communities and shortened the maturity time. This could be supported with findings from piloting phase of this study, which revealed that students and teachers personal ICT implementation is increasing rapidly. 6 out of 15 teachers and other participants assert that hasty imposition of technology in education should be avoided before it becomes familiar to ordinary members of the community and before it becomes a part of the community's daily activities. This issue and many other important findings arising through this analysis

have strong connections with previous theoretical literature in the ICT area. These links will be thoroughly discussed and analysed in the discussion chapter.

### 5.2.3.3 Policy and Strategies of Decision Making in the MoE in Relation to ICT

#### 1- ICT Policies and Strategies in the MoE

#### What policies and strategies have been adopted by the MoE to implement ICT in secondary schools?

Table 31: ICT policies adopted by the MoE to implement ICT in secondary schools

General aims	<ul style="list-style-type: none"> <li>- Develop education</li> <li>- Implement ICT in education</li> </ul>
Proceedings	<ul style="list-style-type: none"> <li>- National Education Development Conference 2002</li> <li>- Long Term Strategic Plan of Education 2005-2025, issued in 2003</li> <li>- ICDL – some training courses (in progress)</li> <li>- Preparing schools for ICT requirements (in progress)</li> <li>- Developing curriculum (in progress)</li> <li>- National Educational development Conference 2008</li> <li>- Kuwait Development Plan, released by the end of 2009</li> </ul>

In relation to policies and strategies adopted by the government and the MoE to implement ICT in education, interviewees intimated that they are aware of the general intention of the MoE to develop education and to bridge the technological gap between the Kuwait educational system and educational systems in developed countries. The MoE is aiming to spread the usage of ICT in schools and to move the educational system into the technological age throughout integrating ICT skills with other learning skills. However, participants claim that although the government and the MoE strongly intend to use technology in education, many other related issues need to be addressed or developed for successful ICT implementation.

In relation to the practical actions taken by MoE for ICT implementation, participants declare that the MoE has developed aims and plans for including ICT in education in light of the outcomes of the National Education Development Conference held in 2002 in Kuwait. After that conference, the MoE introduced the Strategic Plan of Education (SPE) 2005-2025 in 2003. Since then, interviewees highlight that the MoE has taken action and made many decisions related to ICT implementation. Such actions include qualifying teachers by offering a variety of training courses, making ICDL a requirement for employment and promotion, increasing the number of computers in schools and, finally, trying to develop a curriculum to include ICT activities. 12 out of 15 teachers and other participants confirm that the progress of the MoE's plans related to ICT implementation is slow, unstable and suffers from difficulties. In February 2008, the MoE held the second National Educational Development Conference 2008 to look for means of educational reform. Key educators in MoE state that the Strategic Plan of Education 2005-2025 issued in 2003 is now merging with the new Kuwait Development Plan (KDP) released by the Kuwaiti government at the end of 2009, which confirms the instability of political and educational plans in Kuwait. Nonetheless, interviews show that key educators in MoE and members of National assembly are enthusiastic about the new development plan (KDP), as it has mutual support from both the government and National Assembly. This agreement aims to transform Kuwait to a regional commercial and economic centre and this will not happen unless young Kuwaitis progress in many development areas including ICT competency. Participants also declare that the MoE's implementation of plans and strategies has, to some extent, accelerated recently.

### 5.2.3.3 Policy and Strategies of Decision Making in the MoE in Relation to

#### 2- Description of Strategic Plan of Education

#### How would you describe the Strategic Plan of Education (SPE) 2005-2025?

Table 32: Participants opinions about Strategic Plan of Education 2005-2025

Scope	Comprehensive – Long term plan – General - very broad and long – Difficult to implement – Does not have a clear timeframe – Does not have detailed guidelines
Publicity	Came from top to bottom - Weak promotion to public – Teachers are unaware of its details – Parents have no knowledge of it
Importance	Very important to have a plan – Decrease political impact on education through new MoE ministers – Put educational aims in a framework - In the past the MoE had no medium or long term plans – At least the country has an educational plan now – Better than nothing

Participants' description of the Strategic Plan of Education (SPE) 2005–2025 centred on three main areas: the scope of the strategic plan, publicity among the people and the importance of the strategic plan. When looking at the scope of the strategic plan, teachers and other participants indicate that it is a broad, long term and comprehensive plan that covers many educational related issues, including ICT implementation. However, they also found it to be general, very long, and difficult to implement, as it does not have detailed guidelines or a clear timeframe. One teacher (TN.3) declares that there are no clear guidelines or timeframe for ICT plans *"honestly, I do not know when or how we will be able to implement ICT ..... I have not seen any ICT on the ground during the last six years except obligation of teachers to obtain ICDL, some more computers in school administration and many newspapers declarations from MoE's representatives about plans of ICT implementation!"*

When discussing publicity regarding SPE, 11 out of 15 teachers and other participants in interviews declared that the MoE did not succeed in promoting the Strategic Plan

of Education properly to teachers and parents. They indicate that the plan came from top to bottom without involving the Teachers' Association or even consulting people practicing teaching in schools. Interviewees opine that the guidelines of the plan are not clear and teachers are unaware of its details, despite their need to prepare themselves to support the MoE's intentions and strategies to implement ICT. In addition, teachers believe that although parents are willing to support any ICT implementation plans for their children, they have no knowledge about guidelines or details regarding the Strategic Plan of Education and have never been informed about MoE educational ICT strategies. Teachers and parents are still coping with the 2009/2010 curriculum of maths, science, and English language that was recently implemented in many grades without sufficient preparation.

In relation to participants' description of the importance of SPE, all interviewees believe it is very important for any educational organisation to have a good strategic plan. They affirm that the existence of an official plan issued by the Ministers' Council and approved by the National Assembly may decrease the impact of political parties and groups on education. Before this plan, every new minister for education aired his own views or the agenda of his party or socio-political group during the period he occupied the position in the ministry. Participants affirm that, despite the weaknesses of some aspects of this plan, it has helped to put educational aims in a framework that any new minister has to respect and means that they must act within its delineated boundaries.

### 3- Evaluation of Execution of SPE

#### What is your evaluation of the practical execution of SPE in relation to ICT?

Table 33: Participants' evaluation of the practical execution of SPE in relation to ICT

Actions implemented	<ul style="list-style-type: none"> <li>- Some basic ICT training courses (voluntary)</li> <li>- ICDL certificate (compulsory)</li> <li>- Students' Registry System</li> <li>- Increasing number of PCs in schools</li> <li>- Internet access for schools' administration</li> <li>- Some school websites</li> <li>- Technical support units in educational areas Including ICT activities in new English language curriculum</li> </ul>
Actions in progress	<ul style="list-style-type: none"> <li>- Developing the MoE website</li> <li>- Teachers' Registry System</li> <li>- Initiating more school websites and developing existing ones</li> <li>- Equipping all educational departments in schools with Internet access</li> <li>- Merging SPE with KDP, implemented in 2010</li> </ul>
Action postponed	<ul style="list-style-type: none"> <li>- Connecting schools with the MoE and with each other</li> <li>- Many ICT infrastructure aspects</li> <li>- Providing students in secondary schools with laptops</li> <li>- The electronic curriculum</li> <li>- Technical support units in each school</li> <li>- Teachers' professional ICT training courses</li> <li>- Many other ICT projects</li> </ul>

In relation to teachers' and other participants' evaluation of the execution of the Strategic Plan of Education with regard to ICT implementation, interviewees classified their evaluation into three main areas: actions implemented, actions in progress and, finally, actions postponed. Teachers and other participants indicate that the MoE has succeeded in executing many basic and important decisions related to preparation for ICT implementation. Since 2002, free ICT courses have been provided for administrators, teachers of IT subjects and teachers of other subjects and attendance at those courses was voluntary. By the end of 2002, Ministerial Resolution No 359/2002, that obligates all teachers to attain the ICDL certificate by educational year 2007/2008, was issued. The Students' Registry System (SRS) that includes all

data related to students' affairs in all schools around Kuwait was implemented in 2003 and replaced the old paper filing system. Since 2003, the number of PCs in schools' administration and educational departments has slowly increased, as all teachers need to regularly enter the results of students' exams and other records in the SRS. In 2005, Internet access for schools' administration departments was introduced and, in a few schools, Internet access was provided for educational departments. This encouraged some secondary schools to launch their own school websites. By 2008, the majority of teachers had obtained the ICDL certificate and technical support units were established in educational areas to serve schools. In educational year 2009/2010, the seven year old English language textbook was replaced with a new textbook that includes different activities encouraging ICT implementation.

Regarding ICT implementation actions still in progress by the MoE, key educators in the MoE affirm that the MoE is continuously developing the official website of the ministry that provides teachers, students, parents and other stakeholders with information and services. The MoE is also currently working on the final stages of releasing and implementing the Teachers' Registry System that will contain all data and services related to teachers' affairs. Many schools are now initiating their own websites and some of them are continuously developing their existing pages. The MoE is in the process of gradually equipping all educational departments in schools with Internet access. In 2010, the MoE merged the Strategic Plan of Education (SPE) into the new Kuwait Development Plan (KDP) guided by the Ministries Council of Kuwait.

In relation to ICT implementation actions that have not been executed and have been postponed by the MoE, teachers and other participants indicate that the MoE has postponed the major project announced in 2005 which sought to connect schools with MoE and with each other. The reason for postponing this important project is a delay



in fitting the new fibre-optic telecommunication network undertaken by the Ministry of Telecommunications. The MoE has to postpone its connection project until the ministry finishes its new network project in all areas in Kuwait. Interviewees also confirm that many ICT infrastructure aspects have been postponed for different reasons. For example, projects including equipping classrooms with Internet access, fitting data-show projectors and smart boards in all classes were announced in 2005/2006; however, until 2009/2010 very limited action was taken in a very limited number of schools. Participants claim that cost is mentioned as one of the reasons for postponing these projects, specifically the smart board project. One of the projects that has been announced several times since 2005 is the provision of laptops to all students in secondary schools; however, this project has now been postponed many times and it was recently announced that it would be executed in educational year 2010/2011. Participants affirm that, similarly, the electronic curriculum project has been announced several times and postponed for an unknown period of time due to several reasons including the content of the curriculum. Interviews also highlight that list of postponed projects includes a very important element of ICT implementation, namely initiating technical support units in each school that could provide reliable and fast technical support. Key educators in MoE also claim that teachers' professional ICT training courses and many other ICT projects of SPE have been postponed or remodelled to be included in new KDP projects in future.

### 5.2.3.4 Teachers' Views Regarding ICT

#### 1- Importance of ICT

#### What are your views on the importance of ICT implementation in schools?

Table 34: Participants' opinions about the importance of ICT implementation in schools

Important	Crucial need – Global need - Part of our lives – Very important – Schools should work hard for ICT implementation – Useful for teaching – No development without ICT implementation – Teachers have to include ICT in their teaching methods
Not a priority	Other educational problems need solutions before ICT implementation – Curriculum needs development – teachers preparation needs development - Development of teaching quality is more important than ICT – Reading and writing skills are below expectation according to international assessment and need development
Not important	Is not worth the cost – Developed countries have not yet spread ICT implementation in all schools – Will not replace traditional methods

All participants have positive views on the importance of ICT implementation in schools. The 12 out of 15 teachers and other participants believe that ICT implementation in education is very important and consider it to be a crucial need for the future of educational development, as it is a global issue. 7 out of 10 teachers believe that ICT has become part of our daily lives and teachers must consider this fact in their teaching processes. Teachers who are already implementing ICT relate their positive views about the importance of ICT by sharing their experiences of when they found it helpful in many teaching situations. Their answers reveal that a strong relationship exists between teachers' positive views towards ICT implementation and the advantage they believe they can gain from this.

4 out of 10 teachers emphasise the importance of ICT implementation; however, they claim that it should not be considered as the first priority for educational development in Kuwait at this point of time. One teacher (TN.1) states that the *"educational system in*

*Kuwait has many basic problems need to have priority in treatment before any other subordinate issues including ICT implementation ... ..those basic educational problems include: weak curriculum, teaching quality, teachers development, numbers of students in classes, number of learning hours during educational year, commercial private home classes, the weak educational outcomes of the Kuwaiti educational system ... "* 8 out of 10 teachers opine that development of the educational system in Kuwait will not take place solely by spending millions on ICT only. They believe that many critical issues need to be solved and developed and should have the same importance as ICT on the MoE's priority agenda.

Two teachers claim that ICT implementation is not important. They believe that the benefits that education could gain from ICT implementation are not worth the huge amount of money spent on infrastructure, hard and software, training and other related issues. They argue that developed countries have not yet succeeded in introducing ICT implementation in all schools and the success of ICT implementation in developed countries is still limited, questioned and debated. Another teacher (TN.3) claims that "*... ICT is imposed in education systems for commercial reasons ... it will never replace traditional methods and will not be more than normal educational tool.*" The number of interviewees with such conservative views resulting from commercial interference in education is very limited (2); however, it might worth mentioning that the economy is historically intertwined with education in many ways (Cuban, 2001) and that the argument of technology sceptics has taken place over several decades ever since the introduction of paper and ink pens in education (Collins & Halverson, 2009 p. 32).

## 2- Reasons for Using/Not Using ICT

### Why do you think teachers do or do not implement ICT in their classes?

Table 35: Rationale of implementing or disregarding ICT in teaching

Global demand	Universal need – No development without technology – Bridging the technological gap – connect us to the world – To be part of the universal village
Pedagogical need	Develop teaching methods – Provides an authentic learning environment – Develops language learning skills (listening speaking reading and writing) – Offers real learning situations – Rich resource of pedagogical information
Requirements of employment	To have a job – To be promoted – To compete with colleagues and to be distinctive in teaching – the MoE asks them to implement ICT – School encourages ICT implementation
Others	Interesting – Students enjoy the activities (Teachers who do not implement ICT) Time consuming – Need a lot of effort – Does not help to prepare students for exams – not included in teachers' performance evaluation- not required in textbooks.

In relation to the reasons why teachers implement ICT, interviewees believe that teachers use ICT for different reasons including global demand, pedagogical needs and requirements of employment. 13 out of 15 teachers and other participants affirm that teachers use ICT in their classes due to the influence of global demand and the widespread usage of new technologies in education. Teachers are either motivated or forced to implement ICT in their teaching. Those who are motivated are view the globalisation of ICT as an urgent need to bridge Kuwaiti schools with the developed workplace environments in the government and private sectors. One teacher (TU.3) argues that, *"schools are responsible to prepare students to be able to successfully participate in country's economic, work force and social environment... all government departments and private sector companies are using the most recent technologies that our students need to be prepared for."* Another interviewee (MN.1) agrees with this, saying, *"... most of people's needs and communication are now*

*accomplished electronically, worldwide and locally, which means that our schools have to prepare our students to deal with this developing life requirements". Teachers who felt forced to implement ICT as a result of the global demand justified their belief with the need to live in a modern society. Another teacher (TU.2) asserts that "without knowing English language and ICT it will be difficult to live in the modern society in Kuwait or abroad as most of commercial, individual, and social need is directing to be mastered with English language and ICT."*

4 teachers use ICT for pedagogical reasons in order to develop their teaching methods. They find ICT useful as it provides authentic materials, real learning situations and develops language learning skills (listening, speaking, reading and writing). One teacher (TU.1) confirms that the *"Internet provides teachers with effective resources of information and innovative teaching methods and materials that support teaching and learning process."* On the other hand, 2 teachers try to use ICT for recruitment and professional reasons, as familiarity with ICT is considered to be a condition for employment and promotion in the MoE. They try to implement ICT to secure their job and to prove their professionalism to colleagues, as the MoE and school administrators are encouraging and asking teachers to use ICT in teaching. Another teacher (TN.6) states *"I have now to develop my ICT competence to be able to use the new English language textbook and to maintain my distinctive grade in my performance assessment."* 2 teachers implement or try to use ICT for other reasons, perhaps because they have a personal interest in trying new technologies in general and find that students enjoy new activities. 3 teachers who do not implement ICT claim that it is time consuming and requires great effort to prepare; moreover, with a lack of technical support in schools, the teacher is exposed to any minor technical problem. Additionally, they believe that ICT implementation does not help to prepare students properly for exams coming from the MoE, as the integration of ICT

requirements has not yet taken place. One such teacher (TN.5) argues that *"ICT preparation and implementation needs much time ... .. I can't use ICT properly and cover all items of the syllabus in a way that make me happy about my students' readiness for final exams... .. many things still need to be done by MoE to prepare schools and teachers for useful ICT."* 4 teachers argue that ICT is not included in textbooks or even in teachers' performance evaluation criteria.

### 3- Views about Current ICT Readiness

#### Do you think the current readiness of the educational environment in secondary schools supports successful ICT implementation?

Table 36: Role of current educational environment in ICT implementation

Supporting	Strong intention of government and the MoE to implement ICT – Financial feasibility - Compulsory ICDL in 2007/2008 – The 2009/2010 new English language curriculum – Rise in number of computers in schools
Promising	Development of curriculum – Promises to increase number of computers and projectors – Wireless connectivity – Decreasing cost of Internet connectivity since 2008 – Rise in ICT usage in community
Hindering	Lack of clear plan – Need for qualified management - Need for stable policy – Lack of creditable evaluation and assessment - Lack of local and regional up-to-date ICT research - Need for increasing awareness of the importance of ICT in education - Need for continuous training – Weakness of technical support – Limited and slow Internet access – Lack of educational software

With regard to teachers and other participants' beliefs about the current readiness of the educational environment in secondary schools in Kuwait and whether it supports successful ICT implementation, interviewees think that the process of preparing the educational environment in Kuwait is still in progress and will need more time to become well established. They consider that many important supporting factors that assist ICT implementation have been identified; for example, the mutual intention between government and National Assembly to support education and the strong political and financial sustenance that they both provide to the MoE. Additionally, the MoE has undertaken decisive actions that support the ICT environment in secondary schools in Kuwait since 2007/2008, such as compulsory attainment of ICDL for all teachers, developing a new English language curriculum an increase in the number of computers in secondary schools. Teachers and other participants state that the MoE promises to undertake many actions in future to develop the ICT environment. They

claim that the MoE is currently planning to develop the curriculum of all subjects to include ICT activities and intends to increase the number of computers and data projectors. Additionally, the MoE promises to equip schools with wireless Internet access, as the cost of Internet connectivity has reduced since 2008. Participants also claim that an increase in ICT usage among youth in the community promises to be another supporting factor for ICT implementation in future.

On the other hand, teachers and other participants also believe that many factors still obstruct and slow down the development of the ICT environment in Kuwaiti secondary schools. 12 out of 15 interviewees, especially some educators and members of the National Assembly, claim that the absence of a long-term educational plan and the lack of a clear and stable educational policy and a qualified and stable educational management currently hinder the progress of ICT implementation in Kuwait. This is supported by a number of studies presented during the National Conference on Education Reform held in Kuwait in 2008 (British Council, 2007; British Council, 2008; Cassidy, 2008). Teachers and 3 other participants are also of the opinion that many of the educational decisions taken by the MoE are not based on local or regional educational research. They also think that the MoE is suffering from the lack of a credible evaluation and assessment process for students, teachers and educational projects. Moreover, they believe that the current amount of information provided to people about ICT is very limited and that the MoE need to enlighten teachers and parents about the importance of ICT implementation in supporting plans for educational development. In addition, they think that current teachers' training, technical support, educational software and Internet access will not strongly support the MoE's strategies to implement ICT in secondary schools.



#### 4- Feelings Towards ICT Implementation

##### How do you feel when implementing ICT?

Table 37: Teachers' attitude towards ICT implementation

Positive	Like its usefulness and authenticity – Feel proud using it before other teachers – Happy that students enjoy using ICT – Confident it widens students' sources of information and supports students' learning autonomy
Negative	Don't like complications of new technology – ICT needs extra time while teachers' timetables are already overloaded – Disappointed about availability of technical support

In relation to teachers' feelings towards ICT implementation, all teachers using ICT hold a positive viewpoint. They like its usefulness and the fact that it provides students with authentic materials and different types of learning activities. Teachers are happy that students enjoy the ICT activities and find ICT to be a wide source of information related to their studies. They also found ICT to be helpful in supporting students' learning autonomy as they attain the skill to seek out information themselves. One teacher (TU.2) claims that, *"students are interest to go and personally look for information and are very happy to discover that information could be found easily on the Internet."* 4 out of 10 teachers are proud that they implemented the new technologies before their colleagues and before the decision of the MoE to implement ICT in secondary schools.

On the other hand, one teacher do not like the complexity of the new technologies and the continuous need to learn new ICT applications made by manufacturers. Another teacher (TU.1) states that, *"although I enjoy using ICT, I do not like the idea of keeping learning new ICT products to be able to implement them in teaching."* 4 out of 10 teachers claim that ICT implementation needs preparation time while most teachers' timetables are already overloaded during the week and focus on important aspects of the curriculum to support students' preparation for exams. 2 teachers are

disappointed at the lack of reliable and fast technical support and state that, on many occasions, they return to their traditional methods of teaching and avoid wasting time trying to solve minor technical problems.

### 5.2.3.5 Socio-political Issues Related to ICT Implementation

#### 1- Political Supporting/Hindering Factors for ICT

##### What political factors support/hinder ICT implementation?

Table 38: Political factors influencing ICT implementation

Supporting	<ul style="list-style-type: none"> <li>- Global, regional and national trend of implementing ICT in education</li> <li>- Government and public support for education in general</li> <li>- E-government projects over the last 20 years</li> <li>- Government's intention to develop education</li> <li>- The mutual agreement between the government and National Assembly to support education</li> <li>- Availability of financial support</li> </ul>
Hindering	<ul style="list-style-type: none"> <li>- <b><u>Local</u></b></li> <li>- Lack of clear political vision since Kuwait liberation in 1991</li> <li>- Lack of clear and timed government programmes</li> <li>- Instability of Kuwaiti Cabinet</li> <li>- Historical disagreement between Government &amp; National Assembly</li> <li>- <b><u>Regional</u></b></li> <li>- Instability of political environment in the Arabian Gulf and Middle East</li> <li>- Current Iranian intention to play a major role in the area and resistance of many Arabian and Western governments</li> </ul>

The impact of political dimensions on ICT implementation plans in Kuwait seem to be very significant and its influence both supports and hinders. Participants acknowledge the existence of some general supportive political factors that may be the foundation of the current interest in ICT implementation, namely the global and regional trend to implement ICT in education, governmental and public agreement to back ICT implementation plans and the government's financial ability to support all requirements for ICT implementation. They confirm that the most important political

factor supporting ICT implementation in Kuwait is the mutual intention between the government and National Assembly to implement new technologies in the educational system in order to bridge the technological gap between Kuwait and developed countries. This government and public agreement to support education offers continuous political and financial assistance for any educational projects presented by the MoE. Participants also affirm that the government's decision to instigate many e-government projects in all government ministries and authorities over the last 20 years is considered to be one of the most important factors supporting ICT implementation in education.

On the other hand, teachers and other participants state that many local and regional political factors exist that strongly obstruct implementation of many national development plans and projects, especially in the arena of education. Similar to Al-Ramiz (2009), many interviewees claim that the Kuwaiti government has suffered from a lack of a clear political vision since the Kuwait liberation in 1991, not only regarding educational development, but also advancement in many crucial fields in the country. A member of the National Assembly (MN.2) asserts that the *"government did not offer a clear and timed government programs or plans since 1991 until it finally came with the Kuwait Development Plan (KDP) in 2009."* He also confirms that the Kuwaiti government has suffered from weakness, instability and disagreements with the National Assembly over the last 10 years, which has led to the Kuwaiti Cabinet being changed more than seven times during this period. Many participants claim that local political instability has negative impacts on all government plans and performance related to people's basic affairs such as housing, health and education. Ministers used to be replaced within a very short period of time before they managed to execute any planned projects. Interviewees also affirm that regional political factors influence the performance of the Kuwaiti government, as

regional political issues used to dominate a major part of its attention and efforts. Some participants believe that the instability of the political circumstances in the Arabian Gulf region and the Middle East, for example, the Iranian-Iraqi war in 1980, the Iraqi invasion of Kuwait in 1990, the US invasion of Iraq in 2003 and current Iranian intention to play a major role in the area and the consequent resistance of many Arabian and Western governments, is influencing general development plans in Kuwait, as it used to be at the heart of these political conflicts.

## 2- Social Supporting/Hindering Factors for ICT

### What social factors support/hinder ICT implementation?

Table 39: Social factors influencing ICT implementation

Supporting	<ul style="list-style-type: none"> <li>- Openness &amp; dynamics of Kuwaiti society</li> <li>- Exploratory nature of the Kuwaiti society</li> <li>- Private sector interacting with society</li> <li>- Many people own the latest communication technologies</li> </ul>
Hindering	<ul style="list-style-type: none"> <li>- Some parents resist the Internet</li> <li>- Lack of awareness of the potential of ICT in education in some areas in Kuwait</li> <li>- Religious restrictions</li> <li>- Financial ability of some families</li> </ul>

The analysis of responses related to the social dimension, probed in interviews, reveals that it has a distinctive influence on ICT implementation plans in Kuwait. Teachers and other participants consider the dynamics of Kuwaiti society and its openness to other cultures both inside and outside Kuwait to be a supporting factor that facilitates trying new technologies and assists readiness to change. 6 participants claim that the exploratory nature of the Kuwaiti society indicates its readiness to accept new technologies and new teaching methods. They also claim that many Kuwaiti people are aware of the new educational methods around the globe through travelling and living in many developed countries and through their historical interest

in education. Moreover, interviewees also affirm the existence of an active private sector interacting with society through new technologies and the financial ability of Kuwaiti citizens to own the latest communication equipment, which in turn supports ICT implementation in general and in education specifically.

On the other hand, 9 out of 15 participants confirm that some social factors seem to hinder or slow down the momentum of ICT implementation in Kuwaiti society. Some parents are avoiding new technology for religious reasons and some are specifically avoiding the Internet due to their worries over its negative impact on their kids' behaviour. One teacher (TU.2) claims that *"...unawareness of potentials of ICT in education in some areas and reservations of some parents from what may Internet bring to their children discourage them to be interested in ICT."* 5 teachers and other participants believe that the financial ability of some Kuwaiti families who face many social expenses is also a hindering factor. Parents can offer computers to their children, but cannot bear the continuous cost of reliable Internet access, in addition to other social expenses that consume their budgets. Another teacher (TN.4) claims that *"monthly social expenses is very high in Kuwait... parents may agree to buy computers and one or two KD internet monthly prepaid cards for their children but the problem with these cards is their low speed ...fast and permanent internet access is still very costly for many families."* Nonetheless, 4 other teachers state that the cost of permanent Internet access with reasonable speed has reduced since last year due to competition among mobile companies and it is expected to be affordable for everyone in the future.

### 5.2.3.6 Requirements for Better ICT Implementation

**What are the major requirements for better ICT implementation in secondary schools?**

Table 40: Major requirements of better ICT implementation

Requirements related to the government & MoE	Stable and clear general educational policy- Stable qualified educational management – streamlining educational spending – Revision of teachers' preparation, training and evaluation programmes – Control quality of employment and promotion policy – Develop curriculum – Develop schools' ICT infrastructure (equipment, Internet access, technical support) - Encourage local educational research - Continuous community ICT development – Avoidance of hasty top down imposition of ICT in education
Requirements related to schools	Have a space of independence to make decisions - Encourage teachers to implement ICT – Initiate active and useful school website – Initiate and encourage a comprehensive school ICT environment - Encourage continuous ICT activities in school – Maintain continuous (in school) training and technical support – Activate ICT as communication means to contact parents and the MoE
Requirements related to teachers	Learn about ICT implementation – Start implementing ICT - Continuous development of ICT competence – Keep up to date – Encourage colleagues and students to implement ICT in and out of school

In relation to the last part of the interview, which addressed the main requirements for better ICT implementation in secondary schools, teachers and other participants narrowed the requirements to three main parties: government and the MoE, schools' managements and teachers. From the participants' perspective, the government and the MoE are the main players in the ICT implementation issue at this point of time in Kuwait. 13 out of 15 of the teachers and other participants' statements about the main requirements for ICT implementation were directed at the government and the MoE, as they are parties responsible for all educational issues in the country. Participants

consider schools' management and teachers to be very important partners in the ICT implementation process.

Interviewees claim that the government and the MoE need to develop a stable and clear general long-term educational policy and that policy has to be backed by the support of the National Assembly. One participant (MN.2) states that the *"government did not offer a clear and timed government programs or plans since 1991 until it finally came with the Kuwait Development Plan (KDP) in 2009."* He further states that the instability of the Kuwaiti Cabinet and its historical disagreement with the National Assembly may affect the execution of KDP and obstruct all education plans, including ICT implementation. Therefore, key educators and member of National Assembly wish the Kuwaiti Cabinet to be stable and gain the support of the National Assembly so it can execute its future strategic plans. Teachers and other participants also affirm that the MoE needs to assign a qualified educational management. They also asserted that the MoE has to rationalise educational spending, as the huge educational budget is spent mainly on salaries while schools suffer from a lack of ICT equipment and fast Internet access. They also claim that the MoE need to revise teachers' preparation and training programmes to provide teachers with the necessary knowledge and competence to implement ICT in their classes. Furthermore, interviews revealed that the employment and promotion policy, in addition to the quality of non-Kuwaiti teachers employed to teach in government schools, needs to be revised. Salaries for non-Kuwaiti teachers, who represent 70% of the teaching body in the MoE, are not attractive for experienced teachers in developing Arabic countries; therefore, mainly inexperienced teachers come to teach in Kuwait and rely on giving private home classes after school to supplement their income. One participant (ME.2) states, *"... look at home teaching ads in weekly advertisement newspapers to know that MoE is indirectly telling teachers to be not*

*productive in classes because it allows them to spend all the evening roaming between houses giving private English language classes... MoE should revise teachers' salaries and employment procedures and to be very rigid in banning teachers from teaching privately after school."*

Furthermore, teachers and other participants indicate that the MoE needs to develop the curriculum to include ICT activities and develop schools' ICT infrastructure by increasing the number of computers, data projectors, faster permanent Internet access and fast technical support. They also claim that the MoE should encourage researchers in Kuwait University Educational Research Department and other educational bodies to focus on local educational research to build local literature to support the educational decision making process in future. Interviews show that the government should continue building the Kuwaiti e-government and offer continuous community ICT development. Finally, one participant claims that the MoE should avoid hasty top-down imposition of ICT in education in order to give enough time for teachers, students and parents to become familiar with new technologies.

After the government and the MoE, interviewees consider school management to be the next most responsible party with regard to requirements for better ICT implementation in secondary schools in Kuwait. Teachers and other participants claim that school management need to have a space of independence to make decisions and participate in educational decisions. This will help them to initiate and encourage a comprehensive school ICT environment and encourage teachers to implement ICT financially and morally through promotion. They also declare that school management should initiate an active and useful school website that offers information and services for students, teachers and parents. School management also need to encourage continuous ICT activities in school and maintain continuous in-school training and technical support. Participants also advise that ICT should be



utilised as means of communication to make contact with parents and the MoE by e-mail and SMS.

Finally, teachers and other participants shifted the responsibility for offering better ICT implementation in secondary schools onto teachers. They confirm that teachers must learn about ICT implementation and its potential as a useful teaching tool and using it in their classes. They should also continuously develop their ICT competencies through self-learning and attending ICT training courses. Interviewees claim that teachers must keep up-to-date with new experiences of implementation of ICT in education through educational electronic journals that offer a huge amount of literature about ICT experiences worldwide. It is felt that teachers could play a major role in the schools' ICT environment by encouraging colleagues and students to use ICT.

### **5.3 Summary:**

This part of the research is very important part and may be considered the core and the major part of the research. It reveals the most influential factors hampering ICT implementation. Firstly, it disclosed that schools are not ready in terms of their infrastructure, as there are no enough computers or other related equipment or internet access. The curriculum is also not prepared to include ICT activities until 2009/2010. Although students and teachers are using ICT for personal, purposes, teachers need continuous training for educational ICT implementation. Teachers and other participants think that the main influential factors are the policies of the MoE and the schools, infrastructure, weak management and political corruption, teachers' related issues, work environment in schools, the cost of permanent Internet connectivity and, finally, the maturity time factor needed for the spreading of any new invention. Teachers assert that the MoE has achieved some practical projects

related to SPE; however, many projects were postponed or cancelled due to the instability and unclear vision of the government and the MoE. Although, relating to the criticism of SPE, teachers and other participants are happy that the MoE finally have a plan. Teachers' beliefs and attitudes towards ICT's importance is positive but they think that readiness of the current educational environment will not support ICT implementation at present. In addition, teachers and other participants believe that the political dimension is having a very bad impact on ICT implementation plans and educational development in general. Participants think that many issues related to the government and the MoE policies and school management need to be strongly treated and all difficulties stated earlier need to be reformed in order to offer a supportive educational and ICT environment. The findings informed that huge political, educational and social reform is needed to establish a strong management that is able to fight corruption and devise a clear vision and achievable plans. Findings related to the timing of ICT implementation showed that ICT will need more time to be part of class activities in spite of the recent spread of ICT in the community. This spread has strongly supported personal ICT implementation however educational implementation will still need more time.

# **Chapter Six**

**(Discussion)**

## **6.1 Introduction**

Over the last two decades, due to the development and implementation of new technologies including the usage of ICT in education, Kuwaiti teachers and educators have been encouraged to implement ICT in their teaching and daily educational environment. Interestingly, educators and teachers seem to face a variety of barriers that hinder their intention to, practically, develop and progress ICT implementation among the educational community in government secondary schools. This research has aimed to develop a deeper insight in order to investigate the main barriers to ICT implementation in Kuwaiti government secondary schools. As this research is adopting sociocultural theory and looking to issues related to different individuals and contexts, it mainly addresses policy and decision making in the MoE, teachers' views regarding ICT, the readiness of schools for ICT implementation, socio-political barriers and requirements for better ICT implementation. Those specific issues were selected for investigation as the experience of the researcher, the data of piloting phase of this study and literature review indicated that they are the most relevant factors to ICT implementation in Kuwait. Each element is crucially important in its own right and the interaction between them is equally important, as it forms the main components of the ICT educational environment in Kuwaiti government secondary schools. Interaction and integration of these factors, in addition to the role of many participants in the many related contexts, is crucial for successful ICT implementation (Dillon & Ahlberg, 2006). Investigating and understanding the circular and intersectional interaction between these important issues (see Figure 8) has resulted in a better interpretation of barriers against ICT implementation. The educational policy to implement ICT in schools is affected by teachers' beliefs, which are influenced by teachers' individual readiness (in terms of knowledge and competence) and the readiness of the school environment in relation to ICT

infrastructure, technical support and curriculum adaptation. Educational policy to implement ICT is also strongly influenced by local and regional socio-political issues that obstruct educational development in general, including ICT implementation plans. The investigation of the main areas of the research topic has revealed the role of many important sub-issues embodied in several areas of the study that play an imperative part in obstructing the success of ICT implementation. The study has also investigated the requirements for better ICT implementation from the teachers' and other participants' point of view and through a critical analysis of various documents and pieces of literature related to ICT in Kuwait.

The previous chapter has presented findings from data generated from the pilot and main parts of the research. In the piloting part of the study, the area of research was explored and evaluated through a questionnaire sent to 50 participants, documentary research and semi-structured interviews with some students and English language teachers. This part of the study gathered an important amount of information by exploring and evaluating current ICT implementation in government secondary schools in Kuwait. This was achieved through a questionnaire, documentary research and semi-structured interviews; sound findings and some reasonable data were revealed. In light of the findings from this part of the study, current teachers' and students' personal and educational usage of ICT was found to support ICT implementation in English language classes and thus support MoE strategic plans for the future. Nevertheless, related problematic issues like decision making, infrastructure, technical support, training and teachers' enthusiasm are major factors that participants insisted should be considered for future ICT implementation in government secondary schools. This part of the research highlighted that such issues need more in-depth investigation to interpret barriers hindering ICT implementation.

In this main part of the research, a questionnaire was distributed to a sample of 400 English language teachers working in random government secondary schools, for both boys and girls, in the six educational areas in Kuwait. A total of 342 questionnaire papers were returned and 306 were found to be valuable for analysis after excluding invalid papers. This questionnaire was supported by interviews with four ICT qualified teachers implementing ICT in their teaching; six teachers who were qualified in ICT, but do not implement ICT; three educators from the MoE, working in key positions related to ICT implementation and two members of the Educational Committee in the National Assembly of Kuwait (see Table 4). The data collected from students, teachers and educators through questionnaires and interviews offered an understandable picture of the current situation of ICT implementation in Kuwaiti government secondary schools and revealed main barriers obstructing its progress.

## **6.2 Brief Outline of Findings**

Findings from this study indicate many important factors that are obstructing ICT implementation in government secondary schools in Kuwait. At the same time, a slow dissemination of general and educational usage of ICT among students, teachers, schools and educational environments is occurring. Computers entered the administration departments of secondary schools in Kuwait a long time ago, and over the last two decades the Kuwaiti government and the MoE have offered continuous financial and political support to develop ICT implementation in general and specifically in the educational environment. A few years ago, IT (Information Technology) was added to the curriculum of all schools at all levels and teachers and other participants in this study assert that some teachers started using ICT (Word then PowerPoint and later Explorer) for lesson preparation and presentation, as it saves teachers' time and efforts. Recently, many global, regional and local factors have been

identified that support the implementation of ICT in the educational environment and change teachers' beliefs regarding ICT, reducing their traditional resistance. According to the findings of this research, teachers in Kuwait have recently realised that they do not have any excuse to ignore ICT in their teaching, as ICT has advanced significantly over the last five years and become part of people's lives in the community. In addition, the MoE has lately included ICT in the curriculum for some subjects, starting from the educational year 2009/2010, and insists on ICT competence as a condition for employment and promotion. Consequently, many supporting ICT decisions and development plans related to the infrastructure of schools, training, connectivity and curriculum development have recently been introduced by the MoE and the Kuwaiti government in general.

On the other hand, teachers and other participants in this research believe that many obstacles are still hindering the successful implementation of ICT in secondary schools. The usage of ICT for in-class and out-of-class activities and its usage as a direct tool or method of learning and teaching are still very limited in Kuwaiti secondary schools due a variety of factors including: school infrastructure, teachers' preparation and training, teacher's beliefs, policy and decision making in the MoE and other indirect socio-political factors. The readiness of infrastructure in secondary schools in relation to equipment such as computers, printers, data show projectors and smart boards is still limited, although the MoE has often promised to speed up plans to equip all schools with that equipment. Internet access and technical support are considered to be among the principal barriers to ICT implementation with reference to school readiness. Participants are optimistic that a reduction in the cost of Internet connectivity due to competition amongst Kuwaiti mobile companies and new smart phones like the Blackberry and iPhone could support ICT implementation in general and in education in particular. Teachers' educational ICT preparation and training is

another major barrier that affects ICT implementation, as teachers are not well prepared by teacher training colleges and ICT training courses in schools are still limited, although they have recently increased in frequency. Teachers' views regarding ICT implementation in general are positive and almost all teachers consider ICT to be useful, as they believe it offers many attractive educational methods and tools that support the learning and teaching process. Despite these generally positive feelings towards ICT, the majority of teachers are not implementing ICT in their classes and their views are influenced by the ICT policy of school management and the MoE. Many teachers are generally positive about ICT, but have modest expectations about successful ICT implementation in the near future due to the instability of decision-making policies of the MoE and its plans to develop education in general. Many teachers also have negative feelings about promotion policies and teachers' assessment policies that do not precisely evaluate teachers' creativity and professionalism and alternatively focus on administrative elements such as attendance, following instructions and maintaining a good relationship with the head teacher and school administration. These negative feelings about under-estimation of creativity and professionalism in teaching frustrate many teachers and indirectly hinder them from spending time and effort implementing ICT. Teachers and other participants have also identified many socio-political factors that indirectly affect ICT implementation in Kuwait. For example, they consider the disagreement between the government and National Assembly of Kuwait is the direct reason why the Minister of Education has been changed about five times in 10 years. Every new minister dramatically changes policies and re-appoints key people in the ministry's top management positions according to his social and political background. At the end of the study, teachers and other participants proposed some development requirements



for better ICT implementation such as developing schools' infrastructure, training for students and teachers, technical support and curriculum development.

After presenting a brief outline of findings of the research in the introduction of this chapter, the following sections will thoroughly discuss and interpret findings in relation to the research questions underpinning the study. To demonstrate the discussion in a clear manner, the main findings are presented in relation to the study's main themes, which are: exploring current ICT readiness of secondary schools and related educational environment in Kuwait, main difficulties facing ICT, teachers' views regarding ICT, policies and decision making in the MoE, socio-political issues related to ICT and, finally, requirements for better ICT implementation in secondary schools in Kuwait. Section 6.3 discusses findings related to "To what extent are schools ready for ICT implementation in relation to ICT infrastructure, technical support, curriculum and teachers' ICT competences? Section 6.4 explores findings regarding "What are the main difficulties to ICT implementation?" and section 6.5 examines "What policies and strategies does MoE adopt regarding ICT implementation?" Section 6.6 addresses findings related to "What are teachers' views of ICT implementation?, and section 6.7 discusses findings regarding "What are teachers' perspectives about socio-political factors hampering ICT implementation in government secondary schools?" Finally, section 6.8 scrutinises findings related to participants' interpretations of and answers to the question "What are the major requirements for better ICT implementation in secondary schools?"

### **6.3 Readiness of Schools for ICT Implementation**

The readiness of the whole school for ICT implementation is a fundamental factor that strongly influences plans for ICT implementation and could either support or hinder intention to use ICT during the teaching and learning process (Scrimshaw, 2004; Tearle, 2003). When looking at the limited literature available in Kuwait related to this part of the research, for example, Alfureih et al. (1996) and the United Nations Global E-government Readiness Report (2005), it shows that plans to supply schools with recent technology were adopted by the MoE three decades ago. However, findings from this research, related to this issue, reveal that these old plans and the newer strategic plan released in 2003 have not yet been executed and have not yet obviously appeared in the daily practice of teachers in their classes. Computers and the Internet are still found in the administration departments of schools rather than classes, and the ICT perceived in some classes nowadays is the result of the individual efforts of some teachers who are enthusiastic about ICT. The data generated from the two phases of this study shows that the current learning and teaching environment in secondary schools in Kuwait is still not well prepared for ICT implementation, despite continuous significant spending and support.

Findings have classified readiness of schools for ICT into four main areas: schools' ICT infrastructure, students' and teachers' competence in ICT, the curriculum's inclusion of ICT and schools' current ICT situation. In relation to the research question about schools' ICT infrastructure and the equipment available in schools and classrooms, findings unexpectedly reveal that schools are suffering from a lack of many elements of ICT infrastructure. There is an insufficient number of computers and other hardware such as data show projectors, no suitable and curriculum-based software and very limited technical support. Teachers indicate that the only computers available for students' use are found in the IT classes. Teachers of other

subjects cannot use those computers for their classes because they are fully booked during the week by IT teachers. There are also few data show projectors in schools and some keen teachers use their own laptops and buy their own projectors in order to implement ICT and use more interesting teaching methods. Findings related to the current readiness of schools' infrastructure in secondary schools do not match the MoE's announced projects and plans with regard to schools' infrastructure preparation for ICT implementation, as those plans and projects have been rescheduled several times over the last seven years since the release of SPE (Strategic Plan of Education) in 2003. For example, the MoE has announced many times since 2006 that it will increase the number of computers in schools, develop schools networks and will provide all secondary schools students with laptops (Alwatan Newspaper, 2007, 2009, 2010); however, this has not happened yet. They have also declared that school networks will be connected with one another and with the MoE and other databases, but that project has been postponed since 2007 due to weak coordination with other government bodies such as the Ministry of Telecommunications.

At the time that the data was collected for this research, teachers participating in questionnaire and interviews asserted that classes still had no computers or Internet access. In addition, there was no technical support available in schools in order to solve any hardware or software problems and IT teachers and other teachers using ICT tried to fix those problems themselves. Some external factors are helping enthusiastic teachers to implement ICT, for example, a drop in the price of wireless Internet access as a result of competition among mobile companies in Kuwait since 2009. In conclusion, the readiness of schools' infrastructure is still below expectations due to the instability and hesitancy of policies related to the execution of educational plans. The integration of all elements of ICT infrastructure is a crucial factor and providing students with laptops is not a magical solution that will cause ICT to be

implemented. Laptops will not be useful without the availability of suitable educational software, technical support, Internet access and the readiness of other related factors in the educational environment.

With regard to students' and teachers' competencies in ICT, the findings show that their general ICT ability is adequate in supporting ICT implementation. Although some Kuwaiti families find it difficult to bear the monthly expense of spending on reliable internet access, many Kuwaiti parents provide their children with the latest technological gadgets, such as gaming consoles (for example, Nintendo and PlayStation), computers, mobile phones and other ICT innovations. Students' familiarity with new technological devices could be one of the factors supporting their general ICT competence. Ahmad (2007) claims that young people "*were considered as participants, actors, promoters, influencers, and in some cases, leaders of ICT-led development in certain areas.*" In the interviews, some teachers implementing ICT state that some students are very good with computers and sometimes solve technical problems for teachers during classes. Some students and teachers are also able to use ICT for learning and teaching purposes such as electronic dictionaries and also use the Internet as source of information. Literature suggests that school teachers are now more able and confident to use ICT in their teaching than before (Selwyn, 2008). The majority of teachers are familiar with general ICT implementation and many non-Kuwaiti teachers use ICT to communicate with their families in their homeland via programs like Skype and Messenger. However, teachers need to be prepared, trained and encouraged to explore the educational possibilities of ICT that could be implemented in classes and start using them. Selinger and Austin (2003), in their study about policies and training, indicate that the introduction of ICT teacher training policies has had a significant impact on trainee teachers' competence and confidence in ICT implementation. Teachers assert that

training has helped them to be more professional and able to provide additional and improved learning prospects for students. The fact that students and teachers in Kuwait are generally able to use ICT facilitates and supports ICT implementation plans and saves the MoE time and effort, as students and teachers do not need basic introductory training to ICT, for example, courses teaching them how to use computers and the Internet. Some MoE decisions, such as those related to ICDL, support teachers' basic ICT competencies and increase their awareness about the potential usage of ICT in the learning and teaching process. Even though findings indicate that some teachers still need more general and educational ICT preparation and training, it is clear that students' and teachers' competence is generally positive and could support ICT implementation.

In relation to the question investigating the inclusion of ICT in the curriculum, findings reveal that the English language curriculum in government secondary schools did not include or encourage ICT implementation until educational year 2009/2010. Over the last two decades, many plans have been made and practical steps taken towards ICT implementation in the educational environment in Kuwait. However, development of the curriculum to include ICT guidelines or practical activities seems to be neglected by decision makers in the MoE. The old curriculum should have been developed in 2003 when resolution 359/2002, obliging teachers to attain the ICDL certificate, was issued. 8 out of 10 teachers affirm that they acquired the ICDL certificate in 2005 or 2006; however, because the old curriculum did not instruct, or encourage teachers to use ICT and they did not have the time to implement new methods of teaching, they forgot the contents of the ICDL course. The teachers interviewed confirm that many teachers need to take the qualification again to cope with the new English language textbooks implemented recently in 2009/2010. As stated earlier when discussing the importance of sociocultural

integration of ICT implementation factors, findings related to this part of the research support findings from other studies addressing the importance of viewing the ICT and school environment as a whole and not simply providing schools with equipment and training and underestimating other factors surrounding the school (Tearle, 2003). When designing the curriculum, the time factor should also be considered, as ICT implementation needs more time for preparation. Scrimshaw (2004) claims that teachers need a longer period for lessons in order to integrate ICT into their teaching effectively.

From another perspective, some of the interviewed teachers state that the English language curriculum and many other subjects are very traditional and are almost designed to prepare students for examinations and not support autonomous learning, problem solving and critical thinking skills. This claim echoes the fact that Kuwait has recently been poorly ranked in international assessment instruments that evaluate students' achievements in mathematics and reading literacy, for example, Trends in International Mathematics and Scientific Studies (TIMSS) and Progress in International Reading Literacy Study (PIRLS) (PIRLS 2006; Aldowaisan, 2010). Albadri and Zeidan (2011, p. 44) argue that curriculum development in Kuwait does not consider learners' ideas and other external factors and just focuses on the in-class materials that are taught to prepare learners to pass exams rather than preparing them to be autonomous and critical thinkers. They claim that the curriculum should not be limited to textbooks and should encompass the whole educational environment and encourage autonomy and collaborative learning skills. Although the new curriculum implemented in 2009/2010 contains some ICT activities, teachers state that many in-class activities are hampered by a lack of computers and Internet access inside classes. Such activities will be ignored by the majority of teachers who are not enthusiastic enough to use their personal laptops or wireless Internet access, which

again emphasises the importance of preparing schools, curriculum and teachers with integrated ICT requirements.

With regard to the current ICT implementation taking place in secondary schools in Kuwait, findings reveal that teachers' implementation is still very limited and only fulfils the formal obligation imposed by the MoE. For example, it is found that all teachers use computers to register students' results in the SRS (Students Registration System) at the end of each month or examination period. SRS is the first integrated system to be implemented since 2003 and was successfully implemented because teachers were given sufficient preparation and training beforehand; moreover, its usage is a formal obligation. Additionally, the majority of teachers are currently using applications such as Word and Excel to prepare exercises, hand-outs and exams papers for their students. Some teachers are using applications like PowerPoint for presentations instead of using overhead projectors. A number of teachers use other applications that are related to the Internet, but usage of the Internet to explore educational websites or as a source of information or means of communication is very limited. Some schools are currently using SMS to communicate with parents regarding schools' activities and students' affairs. It can be concluded that current ICT implementation in government secondary schools is still very limited and largely includes only obligatory ICT features that are systematically controlled by the MoE and school management such as SRS and use of computers to process important papers like hand-outs and examination papers. Current in-class implementation is still limited to teachers with good ICT skills and a strong belief in using technology in education.

## **Summary**

This part of the discussion has addressed the current ICT readiness of government secondary schools in Kuwait in relation to schools' infrastructure, students' and teachers' competence, the appropriateness of the curriculum and existing ICT implementation. The discussion has determined the major weaknesses of current schools' infrastructure and presented the slow, hesitant and distorted decision making policy used by the MoE to develop schools' infrastructure. This part of the discussion has shown that, currently, students' and teachers' general ICT competence is adequate and could support ICT implementation plans. The majority of teachers need continuous training regarding potential educational implementation. The discussion has also addressed the importance of including ICT activities in the curriculum, as it is one of the major elements of ICT and should have been integrated in the MoE's plans since 2003. Finally, this part of the discussion concludes that schools' environments are not yet ready for ICT implementation and still face major obstacles that need more investigation.

### **6.4 Main difficulties facing ICT implementation**

The main difficulties facing ICT implementation in Kuwait have been identified after exploring current ICT implementation and the readiness of government secondary schools in the piloting phase of the research; further, deeper investigation in this main study has also helped. Findings reveal that many sociocultural and political factors in different contexts of the educational environment in Kuwait are hindering or slowing down development of the MoE plans related to ICT implementation. These factors, according to participants in this research, are related to the policies of MoE and school management, school infrastructure, teachers' related issues, the work environment, the cost of ICT and, finally, the maturity time factor. The diversity of these factors acknowledged by participants of this study disclose that ICT



implementation in secondary schools in Kuwait is sociocultural inquiry that needs different players in different contexts to interact and integrate to develop better ICT implementation. Scrimshaw (2004) divides factors encouraging teachers to integrate ICT implementation in the classroom into two categories: individual factors and whole school factors. Individual factors include access to own personal laptop, availability of high quality resources, unlimited access to software and hardware, high level of technical support, access to an interactive whiteboard, and availability of good quality training. Whole school factors, according to Scrimshaw, include onsite technical support, staff ICT training programmes, support from senior management, whole school policies on ICT use across the curriculum, provision of interactive whiteboards in all classrooms and effective timetabling of rooms and equipment and access to resources. From the findings of this study, and according to other literature like Cuban (2001) and Collins and Halverson (2009), other factors may be added to Scrimshaw's list: personal enthusiasm for ICT, a supportive school environment and finally, avoiding unplanned hasty imposition of ICT without considering the maturity time factor for new innovations. Cuban (2001) asserts that the computer revolution will need time to make changes in our schools due to the non-profitable and conservative nature of those schools. However, the availability of technology in people's hands, especially in educational institutions, may accelerate this revolution. Nobody, of course, is saying that technology companies should provide technology for schools for free, but governments should at least spend on basic technologies like computers and fast Internet access to make them constantly available for students and teachers.

Although some literature claims that policies of the MoE and school management in Kuwait have played a major role in supporting aspects of ICT implementation over the last two decades, (Alfureih et al., 1996; Escwa, 2009; Buarki, 2010), participants

in this study consider educational policies to be one of the main obstacles to successful ICT implementation. They assert that the MoE's policies suffer from a lack of clear and stable educational vision and plans due to continuous change in the Kuwaiti cabinet, as it has changed more than seven times in less than ten years. Teachers and other participants claim that, due to this vague ICT vision and unstable policy, the MoE seems to be unaware of its educational priorities. They indicate that the government is very slow to execute many ICT projects and do not include all educational parties, especially teachers, in planning processes. For example, teachers criticised the MoE's policy of not including authentic ICT activities in curriculums, since it has begun qualifying teachers with ICT training courses such as ICDL. Additionally, the MoE seems to neglect, or not adequately support, local and regional up-to-date ICT research and does not do enough to increase people's awareness of the importance of ICT in education.

Schools' infrastructure is also considered to be one of the major barriers to successful ICT implementation in government secondary schools in Kuwait. Findings reveal that schools' infrastructure is still not yet ready to support the ICT implementation that the MoE is intending to achieve. Since 2003, the MoE has repeatedly promised to increase the number of computers and ICT equipment in schools and to offer fast Internet access and laptops to teachers and students in secondary schools; however, all these promises have not yet been fulfilled. Schools still desperately need more computers and data show projectors, educational software, reliable Internet access, onsite technical support and access to information resources that need to be made available for teachers and students. At present, the only equipped place is the computer room assigned to IT subjects and one presentation room that needs coordination and permission from school management before being utilised by teachers. Classes in the majority of schools still lack computers and Internet access.

Data show projectors are very rare and enthusiastic teachers implementing ICT are using their personal laptops and data show projectors when presenting ICT based lessons.

This research has also disclosed the fact that some issues related to teachers are among the main factors hindering ICT implementation in government secondary schools. Teachers' preparation programmes in teacher training colleges are very old and out of date, as they have remained undeveloped for more than fourteen years (Al Wardan, 2009). Ministerial resolution number 359/2002 asserts that Kuwait University should prepare new teachers with all ICT skills including ICDL before graduation, but unfortunately this rule has not yet been implemented. Novice teachers are totally unprepared to benefit from new technology in their teaching and still need to be trained and encouraged to implement ICT. Teachers have been urged since 2002 to obtain the ICDL certificate and the majority of teachers have acquired this certificate, as it was considered to be a condition for employment and promotion. However, a very limited number are actually using ICT because the old English language curriculum did not include any ICT activities and did not obligate ICT to be implemented, which means that many ICDL holders have forgotten most of in the content of the ICDL courses. The new curriculum implemented in 2009/2010 includes some ICT activities and the majority of teachers need to be continuously trained to be able to cope with its requirements. Some teachers are still unaware of or do not have a strong belief in the pedagogical importance of ICT and therefore resist ICT implementation. The MoE and school management need to provide more information and educational activities to help to achieve a more enthusiastic educational environment in all schools.

The work environment in the majority of government secondary schools is considered to be one of the main factors hindering the implementation of ICT. Many schools

with traditional management are suffering from a lack of encouragement to use ICT effectively and many enthusiastic teachers feel that all their initiatives and ICT efforts are undervalued or ignored. The employment of inexperienced teachers and teachers with low ICT competencies who accept the low salaries offered by the MoE to non-Kuwaiti teachers also does not support the ICT educational environment in schools. The workload and crowded timetables of some teachers that sometimes exceed 20 hours a week also do not support ICT implementation and does not offer teachers the chance to think about or prepare any ICT materials. Some teachers are also asked to adopt managerial duties besides teaching, which also limits their time for ICT preparation. Another aspect that hinders the ICT environment in many government secondary schools is permitting teachers to work in *commercial* home teaching. Many non-Kuwaiti teachers, especially English language and science teachers, spend all their time after school roaming from home to home until midnight giving private home lessons. This often leaves the teacher too tired to teach effectively the next day, thus discouraging them from preparing and using ICT in their classes. Some participants of interviews asserted that non-Kuwaiti teachers giving private home lessons justify their actions on the basis of the low salaries they receive and that they prefer to invest their time to make more money before the end of their contracts and their return home. Although private home teaching is illegal according to MoE regulations, the MoE is not taking any serious action to prevent this phenomenon.

Furthermore, many Kuwaiti teachers are not satisfied with the assessment policy implemented by the MoE and claim that assessment criteria are not precise and that evaluation of teachers does not measure the real pedagogical and teaching competencies of teachers. They claim that evaluation of staff mainly depends on teachers' personal relationship with head teachers and school principals. Naturally, this frustrates many good teachers and discourages their creativity and keen approach

to using new methods of teaching through ICT implementation. All these negative aspects of the current educational environment in government secondary schools will not support ICT implementation and will instead hinder the MoE and government from achieving the objectives of the Strategic Plan of Education.

In a wealthy country like Kuwait, it was anticipated that financing ICT would not be difficult, especially when educational spending has exceeded two billions pounds per annum since 2008. However, the findings of this research reveal that 84.7% of the educational budget is spent on salaries, buildings, administrative charges and other non-ICT expenses, according to the MoE annual spending report 2007/2008. Alenezi (2009) claims that, nowadays, salaries are increasing and are about to consume more than 90% of the general pre-university educational budget in Kuwait; this huge educational budget is therefore not sufficient to supply enough computers in schools and reliable Internet connectivity or onsite technical support. Enthusiastic teachers rely on their personal computers and data show projectors and mobile Internet to implement ICT in their classes. Teachers and other participants consider permanent Internet connectivity and good educational software, in addition to subscriptions to prestigious educational journals, to be major requirements for successful in-class usage of technology. They assert that cost of those ICT elements is greater than their personal budget and wish that the MoE would direct a small amount of the huge educational budget to make these ICT requirements available in all schools. The management of this huge educational budget seems to indicate that inattentiveness or misconduct is taking place in the MoE. Many educational individuals and different Kuwaiti civil organisations are not satisfied by the quality of education provided in government schools and criticise the lack of professional planning and management of the general educational process in Kuwait (Alenezi, 2009; Faris et al., 2009).

Although the aim of this research is to investigate the factors hindering ICT implementation in government secondary schools and to establish why ICT implementation is taking a long time to occur in classes, some participants claim that ICT needs yet more time to become part of the daily educational environment in Kuwait. They argue that technology takes time to become part of people's lives, especially adult people like teachers. Teachers, unlike learners, are unable to follow and manage the rapid daily development of technology and therefore will need more time to acquire knowledge suitable for their teaching. Some participants are against imposing ICT in education and prefer to leave ICT to naturally merge into the educational system. This point of view is supported by literature claiming that some educational systems that sought to adopt ICT implementation did not effectively succeed in that implementation because they were not ready to change from an exam driven approach to a student-empowered approach (Hollingsworth, 2005). Tearle (2002) claims that people and organisations require time to adjust to change and that the "*process of change must be monitored and moved forward, but cannot be rushed*". Cuban (2001, p. 153) also states that the computer revolution will need a time lag to make changes in our schools due to their non-profitable and conservative nature; however, the availability of technology, especially in educational institutions, may accelerate this revolution.

### **Summary**

This part of the discussion has addressed the main difficulties facing ICT implementation in government secondary schools in Kuwait. Although the MoE is the instigator of ICT in education, educational policies are considered to be among the main obstacles to successful ICT implementation in Kuwait. The MoE's policies suffer from a lack of clear and stable educational vision and plans due to continuous change in the Kuwaiti cabinet, which has been reshuffled more than seven times in

less than ten years. Schools' infrastructure is also considered to be one of the main barriers to successful ICT implementation in government secondary schools in Kuwait, as it is not yet prepared to support the ICT implementation that the MoE is intending to achieve. This research has also disclosed that some issues related to teachers, such as preparation and training and teachers' assessments, are among the main factors hindering ICT implementation in government secondary schools. The work environment is also found to impede ICT implementation, as some teachers complain about their heavy workload, lack of encouragement and the underestimation of their creative efforts. Weak administrative control of inexperienced expatriate teachers, accepting employment on low salaries, encourages them to try to make more money through private home teaching, which consequently affects their performance in school. Unexpectedly, the cost of ICT has also been found, indirectly, to negatively affect ICT implementation. The huge budget of the MoE is mismanaged so it fails to cover major requirements for ICT such as hardware, software and reliable connectivity. Enthusiastic teachers are using their own laptops and some buy their own data show projectors, but they are unable to bear the cost of reliable Internet wireless access or subscriptions to some useful educational journals or information resources. Finally, some participants argue that technology needs a longer time to become part of people's lives, especially adult people like teachers; therefore, they are against imposing ICT in education over a very short period of time.

## **6.5 Issues Related to MoE's Policies Towards ICT Implementation**

The policies and decision-making processes of the MoE and school management are very important influential factors affecting ICT implementation in government secondary schools (Hollingsworth, 2005). The development of educational policy takes time to prepare before it is practiced in the educational field. It starts with the reformulation of opinions and goes through a discussion and debate phase that ends with an adoption of a key policy which is finally implemented through administrative procedures that put the policy in operation (Bell & Stevenson, 2006). The MoE originally formulated the idea to use new technology in education in the 1980s, according to Alfureih et al. (1996). After the liberation of Kuwait in 1990, the MoE adopted the policy of preparing the educational environment for ICT implementation and in 2002 started the implementation of its policy through the introduction of the Strategic Plan of Education (SPE) 2005–2025 that drew the main guidelines for ICT implementation. The findings of the current research indicate that the general intention of the MoE to develop education and to bridge the technological gap between the Kuwaiti educational system and educational systems in developed countries is made clear in the educational environment. In the SPE, the Ministry of Education has also set a clear aim to spread the usage of ICT in schools and to move the educational system into the technological age throughout the integration of ICT skills with other learning skills. However, findings denote that, despite the importance of this strong intention and the aims of the government and the MoE to use technology in education, many other related interacting sociocultural and political issues need to be developed and integrated with one another for successful ICT implementation. This is supported by findings from other studies such as that of Hollingsworth (2005), who argues that difficult to achieve, ambitious policies are not enough for ICT implementation. For example, the leadership of ICT policies is a very



influential aspect of ICT implementation that needs to be carefully handled. Leadership plays a major role in preparing the educational environment, including teachers, students and other related parties, to accept the desired change from the traditional methods of teaching and learning to newer ICT-based methods.

The MoE has introduced aims and plans for including ICT in education in light of the outcomes of the National Education Development Conference held in 2002 in Kuwait and released the Strategic Plan of Education (SPE) 2005-2025 in 2003. Since then, findings show that the MoE has made many decisions related to ICT implementation such as qualifying teachers by offering a variety of training courses, making ICDL a requirement for employment and promotion, increasing the number of computers in schools and, finally, trying to develop the curriculum to include ICT activities. Nonetheless, findings confirm that the progress of MoE plans related to ICT implementation is slow, unstable and suffers difficulties. The instability of MoE plans and strategies can be noted in many reluctant decisions made during the last ten years, including changing the educational ladder, student evaluation procedures and, recently, sudden curriculum changes. The Strategic Plan of Education 2005-2025 itself is now merged into the new Kuwait Development Plan (KDP) released by the Kuwaiti government at the end of 2009. Teachers and other participants in this research are enthusiastic about the new development plan (KDP) as it has mutual support from the government and National Assembly. Findings also show that the momentum of MoE's plans and strategies has, to some extent, accelerated recently for various positive reasons.

### **Critique of the MoE's ICT Policies**

A description of the Strategic Plan of Education (SPE) 2005–2025 centres on three main areas: scope of strategic plan, publicity among people and importance of the

strategic plan. When looking at the scope of the strategic plan, findings show that it is a broad, long-term and comprehensive plan that covers many educational development issues, including ICT implementation. However, it is also found to be too general, very long, and difficult to implement, as it does not have detailed guidelines or a clear timeframe. Hollingsworth (2005) states that ICT policies should include details about the professional development of teachers, infrastructure, and online content; he also asserts that ICT policies should discuss the possibility of teachers sharing their experience with their colleagues, the creation of courses for teachers who wish to gain more knowledge of ICT in teaching, and encouragement of new teaching approaches. When evaluating the publicity of SPE, this research shows that the MoE did not succeed in promoting the Strategic Plan of Education properly to teachers and parents. Plans came from top to bottom without involving the Teachers' Association or even consulting people practicing teaching in schools. Plans are not very clear and teachers are unaware of the details in order to prepare themselves to support MoE intentions and strategies to implement ICT. In addition, teachers believe that although parents are willing to support any ICT implementation plans for their children, they have no knowledge of the guidelines or details of the Strategic Plan of Education and have never been informed about MoE educational ICT strategies. Teachers and parents are still wary of the 2009/2010 curriculum for maths, science, and English language that was recently implemented in many grades without enough preparation.

Before SPE, the MoE had no medium or long-term plans and was just following an annual short-term plan that is required by the government at the beginning of every financial year so they can prepare the annual programme and distribute the state budget. Teachers and other participants in this research are happy that the country finally has a long-term plan. Participants' description of the importance of SPE shows

that it is very important for the Ministry of Education to have a clear, long-term strategic plan that guides its operational efforts towards short, medium and long-term objectives. The existence of an official plan issued by the Ministers' Council and approved by the National Assembly will decrease political conflict between different parties and groups in the country who wish to lead and direct education. In the past, every new Minister of Education, as the leading power in education, has imposed his own views or the agenda of his party or socio-political group during his period of office. Findings reveal that, despite the weaknesses of some aspects of this plan, it has helped to put educational aims in a framework that any new minister has to respect and act within its boundaries set by the top management of the government and approved by the National Assembly, who represent the entire nation.

Evaluation of the practical execution of the elements of SPE related to ICT implementation shows that some parts of the plan have already been implemented in schools and the educational field. Other projects are still in progress, while yet others have been postponed or cancelled. This research reveals that the MoE has succeeded in executing many basic projects related to the preparation of the educational environment for ICT implementation. During the last decade, many ICT courses have been provided for administrators, teachers of IT and teachers of other subjects. Ministerial Resolution No 359/2002, that obligates all teachers to obtain ICDL certificate by educational year 2007/2008, was issued in 2002. This resolution is considered by majority of interviewed teachers and educators to be the most important step that the MoE has taken towards the preparation of the educational environment for ICT implementation. The second most important step that the MoE has taken is the inclusion of ICT activities in the curriculum and textbooks of English language lessons. However, this step was delayed for a long period of time until educational year 2009/2010. Teachers are now facing difficulties when using ICT

activities in the new English language textbooks as the schools' infrastructure is not yet ready and they need to refresh their ICDL information and develop their educational ICT competencies through continuous training. The Students' Registry System (SRS), that includes all data related to students' affairs in all schools around Kuwait, was implemented in 2003. The number of PCs in schools' administration and educational departments has slowly increased, as all teachers need to regularly enter the results of students' exams and other records into the SRS. Internet access for schools' administrations has increased and some educational departments in a few schools also have Internet access, which has encouraged some enthusiastic teachers to initiate simple school websites. By 2008, the majority of teachers had obtained the ICDL certificate and technical support units have been established in educational areas to serve schools.

Regarding MoE ICT implementation projects still in progress, research has established that the MoE is continuously developing its official website that provides teachers, students, parents and other stakeholders with educational information and services. The MoE is also currently working on the final stages of releasing and implementing the Teachers' Registry System that will contain data and services related to teachers' affairs and is gradually equipping educational departments in schools with Internet access. On the other hand, the MoE has postponed many projects that have not been executed for a variety of reasons. For example, the MoE has postponed a major project announced in 2005 which aims to connect schools with the MoE and each other due to a delay in fitting the new fibre-optic network, undertaken by the Ministry of Telecommunications. Many other ICT infrastructure projects have also been postponed. For example, schemes to equip classrooms with Internet access and fit data-show projectors and smart boards in all classes were announced in 2005/2006; however, until 2009/2010, very limited action was taken in

very few schools. One of the projects that has been announced several times since 2005 aims to provide all students in secondary schools with laptops; however, this project has been postponed many times and has still not taken place. Similarly, the electronic curriculum plan has also been announced several times and postponed for an unknown period of time. Finally, the introduction of technical support units in all schools to provide reliable and fast technical support has also been postponed for an unknown period of time.

### **6.6 Teachers' Views Regarding ICT Implementation**

Teachers' views regarding practice of ICT are a very important factor that needs to be considered in any future planning for ICT implementation in any educational environment. The development of teachers' positive beliefs about ICT is a key factor in enhancing computer integration and avoiding teachers' resistance to computer usage (Watson, 1998). The development of teachers' support for any innovation will reduce their resistance and will support new technology adoption. Pelgrum (2001) suggests that teachers are the most important agents of change regarding the educational process and any attempt to implement computers in education would need to address teachers' views about computers as a prerequisite for its success. Al-Saleh (2003) asserts that developing countries have the responsibility not merely to provide computers for institutions, but also to foster a culture of acceptance amongst the end-users of these tools.

Individual factors related to teachers such as competence of using ICT, enthusiasm and having knowledge how to implement ICT in education affect their views about ICT implementation. In addition, teachers' views and beliefs about ICT form and vary according to different influential sociocultural factors around them at home, school and community and cannot be examined out of the context in which they are situated,

Mansour (2009). The Kuwaiti economy, community and government are enthusiastic to implement ICT for personal and economical needs and as part of the government intention to apply the e-government project in all ministries and government authorities. Teachers' views towards ICT implementation have been influenced by this sociocultural context as they are an active part in it. This research reveals that the majority of teachers in government secondary schools generally have positive views about the importance of ICT implementation and consider it to be a crucial step for the future of educational development. Research shows that teachers who have positive feelings towards ICT feel more comfortable about using it and incorporating it into their teaching practice (Mumtaz, 2000, p.337). Teachers implementing ICT in this study connected their positive views about ICT with their experiences, as they found ICT helpful in many of their teaching situations. Their answers indicate that a strong relationship exists between teachers' positive views towards ICT implementation and the advantage they believe they gain when using ICT in their classes. Teachers believe that some aspects of schools' current state of readiness support or promise to support ICT in future. However, they also believe that many obstructions are hindering ICT implementation plans and efforts and assert that schools' infrastructure, teachers' competencies and the curriculum need to be developed in order to be supportive of the in-class usage of technology.

Some teachers interviewed in this study expressed positive feelings about the importance of ICT implementation in education; however, they state that ICT should not be the first priority for educational development in Kuwait at this point in time. One teacher (TN.1) believes that the *"educational system in Kuwait has many basic problems need to have priority in treatment before any other subordinate issues including ICT implementation..."* Many teachers and other participants affirm that the development of the educational system in Kuwait will not solely occur as a result of

spending millions on ICT. They believe that many critical issues need to be solved and should be afforded the same importance as ICT in the MoE's agenda. These comments about the timing of ICT implementation and re-prioritisation of educational issues are very important and worth future investigation, from the researcher's point of view. Educational outcomes are now under evaluation and investigation after the weak results Kuwait has achieved in some international assessment test such as TIMSS and PIRLS (Aldowaisan, 2010). The feelings that some teachers have about the MoE's inability to plan and put into working order basic educational issues like curriculum development and the quality of learning and teaching will not encourage these teachers' ICT implementation.

4 out of 15 participants in this research, who are not strongly convinced about ICT implementation in this stage of education development in Kuwait, believe that the benefits education will receive from ICT implementation are not worth the huge amount of spending on infrastructure, hard and software, training and other related issues. They claim that developed countries have not yet succeeded in spreading ICT implementation in all schools and that ICT is imposed in educational systems for commercial reasons. Although the number of teachers and other participants holding conservative views about the importance of ICT in this study is limited, some literature supports these claims and raises the point that the economy has played a major role in imposing technology in education (Cuban, 2001). Nonetheless, it may be concluded that findings from this part of the research indicate that, in general, teachers' views regarding ICT are positive and are likely to support current plans and efforts to implement ICT in the Kuwaiti educational system.

## **6.7 Socio-political Issues Related to ICT Implementation**

### **The Political Dimension**

This research has revealed that many sociocultural and political factors have been crucially affecting plans and efforts related to ICT implementation since it has been introduced to the educational system in Kuwait. Some political factors are considered to be supportive aspects that could participate in forming the foundation of the current interest in ICT implementation. For example, the global and regional trend to implement ICT in education, governmental and public intention and agreement to develop education and the government's financial ability to support all requirements of ICT implementation has formed a good basis for ICT implementation in Kuwait. The government's decision to establish and develop many e-government projects in all government ministries and authorities over the last three decades is considered to be one of the central supporting factors for ICT implementation. National Assembly members and 9 out of 10 teachers interviewed in this study affirmed that the most supportive political factors for ICT implementation in Kuwait is the mutual 'intention' between the government and National Assembly to develop education and to implement new technology in the educational system in order to bridge the technological gap between Kuwait and developed countries. Unfortunately, this mutual intention has not led to a mutual understanding between the government and National Assembly regarding policies and procedures planned and executed by the government and the MoE to reach those agreed general and educational aims.

On the other hand, many local and regional political factors strongly obstruct the implementation of many national development plans and projects, especially in education. The Kuwaiti government has suffered from the lack of a clear political vision and a lack of stability since the Kuwait liberation in 1991 (Al-Ramiz, 2009).



The government has not provided the National Assembly with any clear government programme or plan within a sensible timeframe since 1991, except for its casual reconstruction plan for Kuwait presented in 1992 after the Kuwait liberation. Since that time, the only programme/plan that has had the agreement of both the government and National Assembly is the recent Kuwait Development Plan (KDP), issued and approved at the end of 2009. The Kuwaiti government has also suffered from substantial weakness, corruption, instability and continuous disagreement with the National Assembly over the last 10 years, which has led the Kuwaiti Cabinet changing during this period more than seven times. In other words, over the last 10 years the longest Kuwaiti cabinet lasted for less than two years and many cabinets lasted for only a few months, while the normal period for a cabinet should be four years. These continuous cabinet changes have been taking place as a result of the government mistakenly trying to cover its weaknesses and corruption through gratifying different political groups in the National Assembly (Al-Rasheedi, 2010). The government try to placate major political groups such as liberals, conservatives, Shiaa, financial families, tribal members etc. by including a representative of each political group in the cabinet to avoid offence.

This local political instability and conflict of interests have a negative impact on all government plans and performance related to basic affairs such as housing, health and education. For example, the project for the new Kuwait University campus in 'Shadadiya' was approved more than 10 years ago and it has still not been executed. Another example is the 'Jaber Alahmad Hospital'; a contractor won the bid six years ago, but the execution phase has still not started due to reasons related to corruption and bad planning. Ministers used to be replaced within a very short period of time before they managed to observe, evaluate, plan and execute any project. Teachers and other participants in this research assert that the instability of the top management of

the MoE has had a major impact on the execution of many educational projects, including projects related to ICT implementation. Despite the huge resources possessed by the Kuwaiti government and the MoE, educational outcomes, decision making and development plans have been strongly criticised by 12 out of 15 teachers and educators interviewed during this study.

The local political disagreement and conflict between the government and National Assembly is an indirect result of a fifty year old conflict between national political parties and the royal family about the rights of controlling powers with regard to ruling the state. This conflict is due to the nature of the Kuwaiti Constitution issued in 1962, which, in brief, states that Kuwait is ruled mutually by the Emir of Kuwait and the National Assembly. In other words, the government is not able to pass any rule or project without the approval of the National Assembly and the National Assembly is not able to approve any rule or project without the Emir's approval. On many occasion, the Emir has dissolved the National Assembly when it tried to use its power to issue rules without his approval. This political instability has been on-going since 1962; the National Assembly was unconstitutionally dissolved in 1976 and 1986 and constitutionally dissolved in 1999, 2006, 2008 and 2009 (KNA, 2011). There have been calls to make some changes to some articles of the Kuwaiti Constitution in order to either give full power to the royal family (the Emir) or to the National Assembly that represents the nation in order to stop this continuous disagreement that delays all development plans and projects. Although this is a very crucial dimension that affects the nature of this topic, it is not within the scope of this study and will need further investigation by other researchers.

Findings of this research also reveal that some regional political factors influence the performance of the Kuwaiti government. Due to the geographical nature of the Kuwait strategic location at the northwest of the Arabian Gulf surrounded by Iran,

Iraq and Saudi Arabia, regional political issues used to dominate a major part of the Kuwaiti Government's attention and efforts. The instability of political circumstances in the Arabian Gulf region and the Middle East, for example, the Iranian Iraqi war in 1980, the Iraqi invasion of Kuwait in 1990, the US invasion of Iraq in 2003 and current Iranian intentions to play a major role in the area, which is resisted by many Arabian and Western governments, is influencing general development plans in Kuwait, as it is in the heart of this unstable area. This can be strongly noted during the current political tension between Iran and Gulf Cooperation Council (GCC) countries due to Iranian interference in the local affairs of Bahrain and its attempts to support Bahraini Shiahs to remove the Bahraini royal family. All these regional political conflicts in the area have strongly affected Kuwait and, in 1990, threatened the existence of Kuwait when it was invaded, destroyed and removed from the map by Iraqi troops.

### **The Sociocultural Dimension**

The sociocultural dimension appears to be an influential factor with regard to plans and the execution of ICT implementation in Kuwait. 9 out of the 15 participants consider the dynamic of the Kuwaiti society and its openness to other cultures inside and outside Kuwait to be a supporting factor that facilitates the implementation of new technologies and supports social readiness to accept change. Some participants claim that many Kuwaiti people are aware of the new educational methods and tools available around the globe through travelling and living in many developed countries and through their historical interest in education. Views of interviewees of the current study assert that the exploratory nature of the Kuwaiti people supports their readiness to accept the implementation of new technology. Findings also reveal that many commercial establishments and private sector institutions are interacting with society through new technology to market their products, which indicates the readiness of the

society to accept change and deal with new ICTs. The economic ability of Kuwaiti society enables young citizens to own the latest communication equipment and mobile phones, which supports general readiness for ICT implementation.

On the other hand, some sociocultural factors appear to hinder or slow down the momentum of ICT implementation in Kuwaiti society. For example, findings indicate that some parents are hesitant about using new technologies due to social and religious reasons. Some are specifically avoiding the Internet due to their worries about its negative impact on their kids' behaviour. Some teachers believe that parents in certain areas are concerned about what the Internet may teach their children. The financial ability of some Kuwaiti families to pay for many social expenses is another social factor that may hinder the spread of ICT. Parents could save face and buy computers for their children so they are the same as other relatives or neighbours; however, some parents will not be able to financially tolerate the continuous monthly cost of reliable Internet access, in addition to other social expenses that consume their budget. At the same time, findings show that the cost of permanent Internet access with a reasonable speed has reduced since last year due to competition among the three mobile companies, which is expected to encourage more ICT users to move to permanent connectivity in future.

### **6.8 Requirements for Better ICT Implementation**

This area of the research addressed requirements for ICT implementation from students' teachers' and educators' point of view. Initially, this study did not plan to address teachers and other participants' views about requirements for better ICT implementation and intended to rely on findings of other literature and previous studies, as requirements for better ICT implementation are expected to be similar in all educational environments. However, since the early interviews that were

undertaken in the piloting phase of this study, participants' views about this dimension started to become clear during all the investigation stages, especially during the teachers' and National Assembly members' interviews in the main phase of the research. The findings indicate that teachers and other participants' views about the requirements for better ICT implementation, particularly those of teachers and National Assembly members, have not been adequately represented during the formulation and preparation phase of the Strategy Plan of Education (SPE) and recent Kuwait Development Plan (KDP). It was therefore important to include this dimension in this study and to explore teachers' views about ICT requirements in the Kuwaiti educational environment, as teachers are the most concerned stakeholders since they are the executors of all ICT implementation plans.

The findings of this research have divided the requirements for better ICT implementation into three main categories: issues related to policies of government and the MoE, issues related to policies and enthusiasm of school management and issues related to teachers' competencies and enthusiasm. Teachers and other participants assert that the government and the MoE are the main players in all ICT implementation concerns, as they are the bodies responsible for setting policies, planning, effecting, observing and controlling all educational issues in the country. They also emphasise that school management and schools' teachers and factors related to them are the main executors and field practitioners of plans to implement ICT. Research findings such as those of Pelgrum (2001), Tearle (2003) and Scrimshaw (2004) support these claims and consider governmental policies, school management and teachers to be among the most important factors supporting or hindering the execution of ICT implementation.

Information related to the policies of the government and the MoE emerged from teachers and other educators from the questionnaires and interviews of the main

phase of this study. Teachers and other participants indicate that the government initially needs to solve its historical disagreement and political conflict with the National Assembly of Kuwait. The National Assembly used to criticise government central and improper policies since its establishment in 1962, which led to its unconstitutional termination in 1976 and in 1985, until it was returned in 1991 after Kuwait liberation from Iraqi invasion. This conflict reached its peak in December 2010, when violent clashes took place between Kuwaiti protestors, including members of the National Assemblies, and government special forces, which left at least five people injured (BBC News, 2010). The conflict is growing enormously as the volume of corruption in government districts has reached dramatic levels during the last six years. According to Transparency International (2005), Kuwait's corruption index has deteriorated. In 2003, Kuwait was ranked in 35<sup>th</sup> place out of 133 countries, with a score of 5.3. In 2004, Kuwait had dropped to the 44<sup>th</sup> position from 146 countries. By 2005, Kuwait had fallen further and was ranked 45<sup>th</sup> out of the 154 countries covered by the report, with a score of 4.7. This annual report noted the drop in Kuwait's global ranking from 46<sup>th</sup> to 60<sup>th</sup> in 2007 and 2008 respectively. In 2010, Kuwait was ranked in 54<sup>th</sup> position, out of 178 countries, with a score of 4.5. Due to this dramatic increase in the levels of corruption in Kuwait, youth groups, along with members of the National Assembly, called for a change in the Kuwaiti Constitution into a constitutional monarchy. This corruption has reached the 'House of the Nation', the National Assembly, as the public prosecutor has recently launched an investigation into huge illegal transfers into the bank accounts of at least nine members of the 50-member Kuwaiti parliament (Ahram News, 2011). This factor is considered to be a fundamental requirement that could strongly minimise hindrances and obstacles to the successful implementation of ICT in government secondary schools and the general development of the country. This disagreement has led to the

Kuwaiti Cabinet to be changed seven times in six years, which has disrupted, postponed or cancelled development plans and other essential educational projects. Ministers of education have never been given enough time to execute, observe or evaluate any educational plan. This unstable government/cabinet obstructs any intention or efforts to set clear, general long-term educational policies and plans, including ICT implementation plans. Findings related to government and MoE policies reveal that the significant educational spending needs to be revised and redirected in a more useful and rational way that fulfils schools' need for ICT equipment, software, technical support and fast Internet access. This research has also shown that the MoE is required to revise teachers' preparation and training programmes to provide teachers with the required knowledge and competence to implement ICT in their classes. The employment and promotion policy, in addition to the poor quality of non-Kuwaiti teachers employed to teach in government schools and their salaries are among the requirements that the MoE should consider for better ICT implementation. In addition, they also need to consider the development of schools' management, infrastructure, the curriculum and building a local body of ICT literature through the encouragement of local ICT educational research. Al Bustan (2005, p. 10) asserts that consideration of the time factor and continuous educational research are also important requirements for successful ICT implementation in Kuwait. Additionally, the government needs to accelerate the process of building the Kuwaiti e-government and should offer continuous community ICT development in order to prepare schools' environments and communities to accept the new changes in the educational system. Finally, the MoE should also minimise resistance to change by avoiding hasty top down imposition of ICT in education before allowing enough time for teachers, students and parents to become familiar with new technologies. Hence, it is noted that the government and MoE are the superior leaders

that are responsible for the majority of ICT implementation requirements, as they have the power to plan, implement, observe and develop any educational project or scheme.

This research confirms that school management, after the government and the MoE, carry the responsibility of facilitating and offering requirements for better ICT implementation in secondary schools in Kuwait. Findings confirm that school management should develop the ability to initiate and encourage the comprehensive school ICT environment through socio-culture integration with the MoE, teachers, students and parents in order to transform MoE plans and projects into actual practical implementation. They are required to encourage teachers to implement ICT through realistic professional evaluations that measure teachers' creativity, professionalism and participation in the whole school. School management are also required to initiate active and useful school websites that offer information and services to students, teachers and parents and must encourage continuous ICT activities and maintain continuous training and technical support. Teachers also believe that school management should encourage ICT as a means of communication between parents and school through e-mail and SMS and should encourage an active ICT environment to be initiated among school, parents and other community organisations in general.

Finally, findings from this part of the research confirm that the availability of competent and enthusiastic teachers is the third crucial requirement for better ICT implementation in secondary schools. Participants also confirm that teachers have to learn and continuously develop their knowledge about ICT implementation and its potential as a useful teaching tool/method and start using it in their classes. They must also keep up-to-date with new experiences of implementing ICT in education through continuous training and subscriptions to educational electronic journals offering a



huge amount of literature about educational ICT experiences. Competent and enthusiastic teachers could play a very important role in schools' ICT environment by encouraging colleagues and students to use ICT.

In light of analysis and findings of this study, MoE needs to make basic ICT implementation requirements available in the Kuwaiti educational environment in order to be able to achieve its ICT plans, as presented in the MoE Strategic Plan of Education (SPE) and the Kuwait Development Plan (KDP). The core requirement is to have clear and achievable ICT objectives supported with a stable government and MoE policy in order to reach the goal of in-class and out-of-class continuous ICT implementation.

## **6.9 Summary**

A discussion of findings from this research has shown that areas investigated are collaboratively playing major roles in achieving the government's and MoE aims to implement ICT in government secondary schools in Kuwait. ICT implementation is not an easy target that governments or ministries of education can achieve through merely making the decision to implement ICT without considering all direct and indirect factors surrounding the whole educational process. Findings from this research and findings from other studies and literature reviews addressing ICT implementation in education, for example, Cuban (2001), Pelgrum (2001), Tearle (2003), Sa'aada and Sartawi (2003), Scrimshaw (2004)) and Buarki (2010), assert that ICT policies, schools' infrastructure, teachers' preparation and continuous training, teachers' positive beliefs regarding ICT, a developed curriculum, and other related factors are collaboratively crucial requirements for successful ICT implementation. In this research, which focuses on government secondary schools in the Kuwaiti environment, the socio-political dimension appears to be a crucial additional ICT implementation factor that has a strong influence on MoE ICT policies and plans. Moreover, the unstable relationship between the government and National Assembly has affected the performance of the Kuwaiti cabinet over the last two decades. In addition, many other educational issues such as employment policies, assessment and promotional policies have been listed among hindrances to successful ICT implementation in Kuwait. Those issues have shown that the Kuwaiti educational environment still needs more time to be collaboratively ready to support the usage of ICT. The next chapter will be addressing the conclusion and the recommendation of this research.

# **Chapter Seven**

**(Conclusion and Recommendations)**

## **7.1 Summary of the Research**

This research aimed to explore, identify and understand influential factors surrounding ICT implementation in government secondary schools in Kuwait. It tried to broadly investigate and interpret supporting, hindering and problematic educational, pedagogical, social and political circumstances surrounding educational ICT implementation. This contributed to an understanding of the whole situation that caused teachers not to implement ICT in their classes, although the intention and the announced Strategic Plan of the MoE were to integrate ICT into the Kuwaiti educational system. The pilot phase of the study explored and evaluated current ICT implementation by exploring current students' and teachers' general and educational ICT competencies and exploring current school infrastructure. This pilot part of the study prepared the ground for this main phase of the research, which investigated more deeply the different influential factors related to ICT implementation, through different key participants in the educational environment of government secondary schools. The influential factors investigated included strategic planning and policymaking, school infrastructure, teachers' preparation and training, teachers' views with regard to ICT implementation and socio-political related issues. Some other influential factors have emerged from participants during the data collection process. These included the need for wholesale reform for the educational system in Kuwait, the need for a qualified and stable educational management, the need to give some independence to school management, the need for an independent educational assessment and evaluation body and, finally, the need to give ICT implementation enough to mature.

In order to explore, identify and understand the influential factors surrounding ICT implementation in government secondary schools in Kuwait the following objectives were set for this study:

## **Objectives of Study**

- To investigate readiness for ICT implementation, in terms of school infrastructure, the curriculum and teachers' preparation and educational ICT competencies.
- To determine the main barriers to ICT implementation.
- To explore the policies and strategies of decision-making in the MoE with regard to ICT implementation.
- To explore teachers' opinions towards ICT implementation.
- To investigate if there are any socio-political conditions hampering the usage of ICT in government secondary schools.
- To identify requirements for better ICT implementation.

The methodology adopted for data collection in this research, in order to answer the research questions, was decided according to the research's aims and theoretical framework. In order to explore the area and find facts about the current ICT situation, through exploring students' and teachers' ICT competence, documentary research, a questionnaire and interviews were used in the piloting phase of the study. Documentary research contributed by showing evidence of the MoE's intentions, plans and decisions in introducing ICT into the educational system. The questionnaire was distributed among 50 students from secondary schools. After the questionnaire, interviews were undertaken with two students and four teachers. In the light of research's aims, the literature review and the findings from piloting phase of the study, a questionnaire was distributed among 400 English language teachers and 306 were found valuable for analysis. After the analysis of the findings of the teachers' questionnaire, and in light of the findings from all the other tools used earlier in this

study, interviews were carried out with 10 teachers, 3 decision makers in the MoE and 2 members of the Educational Committee in the National Assembly. Those interviews have profoundly participated in having a final understanding and interpretation of all the influential factors in ICT implementation.

## **7.2 Summary of the Main Findings**

The findings of this study have answered all the research questions and achieved the aims and objectives of the study. In order to explain this I will present the main findings of the research in relation to the research objectives.

The first objective of this study was to investigate the readiness for ICT implementation requirements in terms of school infrastructure, the curriculum and teachers' competence. The findings related to this objective revealed that school infrastructure and the curriculum still do not support ICT implementation in spite of the practical actions that the MoE have taken over the last five years. The participants in the teachers' questionnaire and interviews asserted that the numbers of computers and other related requirements, such as internet access, printers, projectors and technical support, remain the main hindrances. The curriculum does not support ICT implementation and did not contain any ICT activities until the recent English Language textbook, implemented at the beginning of the academic year 2009/2010 and introduced for years 10 and 11. Teachers asserted that the problem remained, as there are no computers or Internet access in classes. However, teachers stated that the positive side of developing the new textbook was that it supported enthusiastic teachers to use their personal laptops, projectors and their personal wireless Internet access. This is a very important hint that community out school is currently more developed than the school environment. Teachers also asserted that the drop in the cost of Internet access in Kuwait, since the entry of the third telecommunication

company in 2008, has encouraged many individuals to have permanent wireless Internet access. This encouraged many teachers to implement some aspects of ICT into their teaching processes and not to wait for the MoE to develop school infrastructure. In relation to the teachers' and mentors' readiness for ICT implementation in government secondary schools, findings from both parts of the study asserted that many teachers and mentors had recently become able to use ICT for various personal needs and that all teachers were obliged to obtain the ICDL certificate. Some teachers asserted that they did not benefit from ICDL as they do not implement ICT in their classes and have forgotten most of what they had learned from the ICDL course. The findings showed that the MoE needs to develop teachers' abilities in the educational implementation of ICT through specific intensive training. The second objective of this part of the study, about determining the main barriers to ICT implementation, has been achieved as teachers specified very important issues hindering ICT implementation. They considered the insufficiency of school infrastructure, the lack of hardware/software, the lack of Internet access, teachers' preparation and training for educational implementation of ICT, curriculum development, the assessment evaluation system, the current work environment in schools and management policies to be the main barriers to ICT implementation. Many participants considered the lack of qualified strong management and a stable long-term vision in the MoE and the Kuwaiti Government in general as the reason for the huge amount of political, social and educational problems facing Kuwait since 1990. They also stated that school principals are not allowed to develop their schools, or participate in planning and decision making, and that the MoE is using a top-down, central style of management. Some participants drew attention to the opinion that ICT educational implementation will need 'new inventions time maturity' in order to be integrated into schools and should not be imposed on them. They considered the time

maturity of ICT in general, and in education, as an important factor that may delay the effectiveness and success of ICT implementation.

The third objective of this part of the study related to the MoE policies, and how its strategies of decision-making, were achieved. The findings revealed that the MoE is aiming to develop education in general, including ICT implementation, and has held educational conferences to set strategic plans to execute its objectives. A number of projects have been executed and many others are in progress or postponed to be achieved in future due to the slow movement of projects approval documentary cycle in the government authorities. Teachers criticised the MoE's educational plan, as it is very broad and lengthy, does not have detailed guidelines, does not have a clear timeframe and will need stable management to be implemented. In addition, they considered that it came from the top to the bottom, without consulting practitioners in the educational field, and was not promoted properly to the public. Nonetheless, participants asserted that it is very important to have a framework for the future of education in the country, which will minimise the instability of the MoE's decisions.

The fourth objective of the main phase of the study, regarding exploring teachers' opinions regarding ICT implementation, was achieved. The findings from the questionnaire and interviews showed that teachers' views and attitudes about the importance of ICT implementation and using it were very positive. However, teachers do not think that the current educational environment will support ICT implementation because of limitations related to school infrastructure and current teachers' educational ICT competence. Participants think that the global development of ICT and the recent spread of ICT more widely in communities and the reduction in the cost of wireless Internet access, in addition to expectations about the MoE's future projects, could develop the educational ICT environment and shorten the maturity time factor of ICT.



The fifth objective in the main phase of the study, regarding the investigation into whether there are any socio-political conditions hampering the usage of ICT in government secondary schools, was also achieved. Participants asserted that the social situation is not hampering ICT implementation, although a few conservative Kuwaiti families have not been encouraged to let their children use the Internet due to their concerns about the bad impression the Internet could have on children. However, teachers and other participants asserted that a number of political dimensions are hampering ICT implementation, the general educational reform of the Kuwaiti educational system and the development of the country in general. Many participants claimed that continuous historical disagreement between the National Assembly of Kuwait and the government, and among different political groups, is the main aspect that has hindered developments since the Kuwaiti liberation in 1991. This conflict reached its peak in December 2010, when violent clashes took place between Kuwaiti protestors, including members of National Assemblies, and government special forces, which left at least five people injured (BBC News, 2010). In 2011, Kuwaiti youth groups, along with members of the National Assembly, called for a change of Kuwaiti Constitution into a constitutional monarchy, as the Public Prosecutor has launched an investigation into huge illegal transfers into the bank accounts of at least nine members of the 50-member Kuwaiti parliament (Ahram News, 2011).

The final objective in the main phase of the study about requirements for better ICT implementation was also achieved. The findings showed that requirements for better ICT implementation are mainly related to three parties: the government and the MoE, the school management and the teachers. Teachers and members of National Assembly asserted that the government and the MoE should assign a qualified, stable management that can set down a tangible educational plan, based on global and local

research and with a clear timeframe. The MoE should fight political and financial corruption, streamline spending and equip schools with all the requirements of ICT infrastructure. Teachers also asserted the importance of revising assessment and evaluation policies, the curriculum and teachers' preparation and training. Participants believe that school management needs to have an independent space to support creativity and competition among teachers. Participants asserted that school management should instigate and encourage the necessary activities to establish an active school ICT environment. Finally, findings showed that teachers are at the core of this process and they should continuously develop their educational ICT competencies and start using aspects of ICT in class and encourage students and colleagues to use ICT, both in and out school.

### **7.3 Recommendations**

In relation to the research findings and the conclusion generated from them, the most influential factors on ICT implementation are related to the four main activators in the educational process: the Government, the MoE, school management and teachers. Consequently, recommendations are directed to those four main activators in the following sections.

#### **7.3.1 Recommendations Related to the Government**

The following recommendations are directed to the Government:

- The government and the ruling family in Kuwait need to lead a national political reform, starting with solving their internal conflict about sharing the ruling power. This will need to be followed by a national agreement to develop the Constitution of 1962 in order to protect the State from future disagreement between the National Assembly and the government.
- The government should immediately stop balancing policy, stop assigning ministers, Under-Secretaries and other decision makers under pressure from different political groups and start appointing qualified technocrats in all management levels in the country. It should also treat the frustration that has spread in the community due to years of political, financial and social corruption and replace it with new policy that supports the nation's interests against the interests of individuals and political groups.
- Education management should be isolated from any future political deals with different local political groups.
- The government should resume and continue the execution of the projects planned in the Kuwait Development Plan (KDP) issued in 2009, including educational projects, and accelerate the projects' approval documentary cycle.

- The government should activate the National Centre for Education Development to be the responsible government independent authority on education development, including ICT implementation. This centre should be kept under the umbrella of the Ministries Council to maintain its independence from the MoE and to support its ability to assess and evaluate the educational process around the country in an accurate and professional, independent way. The findings revealed that assessment and evaluation are among the influential factors on student and teacher performance. According to current MoE student evaluation, the results of typical students in Class 4 are above 80% while international tests, like PIRLS and TIMSS, show very different results for the same group of students.

### **7.3.2 Recommendations Related to the MoE**

The following recommendations are directed to the Government:

- The Ministry of Education (MoE) should revise, develop and adjust the Strategic Plan of Education (SPE), with the KDP, to have a clear educational vision and plans with a tangible timeframe and guidelines. The findings of this study admired that Kuwait now has a long-term educational plan, after years of working on unstable short-term plans. However, the findings revealed that teachers are worrying about the lack of clear educational vision, project guidelines and timeframes. In addition, the MoE has to bring teachers and school principals on board in the revision process of the educational plan and in any future educational planning.
- The MoE should base its plans on global and local educational research and should avoid importing ready-made educational projects that were implemented in different contexts and implementing them in Kuwait without sufficient study. In addition, the MoE has to develop its own Department of Educational Research and support educational research in Kuwaiti universities and the Public Authority for

Applied Education and Training. The MoE also has to benefit from the valuable educational papers presented in the National Education Development Conferences held in Kuwait in 2002 and 2008.

- The MoE needs to revise its educational policy and prepare to give school management the space of 'guided independence' to make decisions related to the executive part of the educational projects and plans. This will support creativity and competition among schools to develop their schools' outcomes and results when evaluated by independent assessment bodies or exams. This scope to participate in the planning and execution of educational projects and plans will limit school principals in blaming the MoE for its central style of management and that all educational decisions are top-down decisions.
- The MoE should open channels of cooperation and exchange of experiences, in relation to ICT implementation, between school management in government secondary schools and management in private secondary schools, as the findings of the pilot study showed that the management in private secondary schools is strongly supportive of ICT implementation, learning and teaching quality.
- The huge spending on education should be controlled and redirected effectively to support ICT implementation by developing basic ICT infrastructure in schools and increasing the numbers of computers, projectors and other ICT requirements, including providing continuous and reliable in-school ICT technical support. The MoE should also prepare educational software in the Arabic language and according to each subject curriculum, for teachers of subjects taught in Arabic. In addition, classes should be provided with fast Internet access and schools should have access to local and global information resources and educational journals.
- The MoE should benefit from the fast current spread of ICT among individuals and different community sectors and should develop the school environment to

have the same momentum as the world outside school. For example, the current availability of wireless internet access supplied by Internet providers at a reasonable cost would enable the MoE to solve the problem of Internet access in schools until the Ministry of Telecommunication finishes its fibre-optic project.

- The MoE needs to continue developing the curriculum to contain authentic ICT activities. It should also provide continuous training courses for teachers in order to develop their educational ICT competencies. In addition, it should develop programmes in teacher training colleges to include ICT implementation modules. Teacher recruitment and evaluation policy should be revised to support professional work environments where distinctive teachers are rewarded and the indolent are re-qualified or have their contracts terminated.
- The MoE should avoid imposing ICT projects if it is still not widespread in the community and not yet related to people's daily lives and should keep in mind that ICT is a combination of different inventions that will need plenty of time to be a part of students' and teachers' lives. ICT has taken time to spread in educational environments in developed countries and will take time to spread in our schools.
- **Detailed Implications related to MoE**
- In light of analysis and findings of this study and recommendations presented in this section, detailed implications related to MoE can be presented in this paragraph. MoE needs to make basic ICT implementation requirements available in the Kuwaiti educational environment in order to be able to achieve its ICT plans, as presented in the MoE Strategic Plan of Education (SPE) and the Kuwait Development Plan (KDP). The core requirement is to have clear and achievable ICT objectives supported with a stable government and MoE policy in order to reach the goal of in-class and out-of-class continuous ICT implementation. When having clear achievable objectives and staple policy, there are many fundamental

requirements that the government and MoE must consider in order to achieve the maximum possible level of success of the intended aim. The first step that the MoE needs to perform is to employ a top-level, independent, expert ICT manager, who should take over responsibility for all ICT-related issues, including ICT planning, execution, observation, evaluation and development (Tearle, 2004; Hollingsworth, 2005). Due to the lack of such an independent expert manager, ICT plans and activities in the MoE are carried out through many different administration departments, which suffer from weak ICT implementation experience, limited authority and improper coordination with other related parties. The proposed ICT expert manager should have broad ICT experience and knowledge, strong leadership skills, positive beliefs in ICT and strong political and financial support from the MoE. The ICT expert manager needs to move towards the development of schools' infrastructure and curriculum with full political and financial support from the MoE. He needs to promote ICT to the community and to make ICT resources available at school. The expert management needs to maintain continuous training of teachers and MoE staff and continuous comprehensive evaluation. A continuous ICT implementation evaluation process is a very important aspect, which will help to limit any weaknesses and develop any supporting strengths. After preparing a suitable ICT platform with an ideal infrastructure, a developed curriculum and a prepared ICT community, teachers should be thoroughly trained and encouraged to implement ICT in their teaching, in order to move the process from the planning and preparation phase into a practical implementation phase. The training and evaluation processes should be continuous in order to limit weaknesses and develop strengths and positive ICT aspects. Once ICT implementation is taking place in schools, immediate technical support and other ICT resources should be

made available for teachers, students and other school and community individuals, including parents. Some regulations related to education, such as including ICT implementation in teachers' assessment criteria and considering email to be an official means of communication, need to be developed in order to encourage teachers and MoE administrators to develop their ICT competencies. This process is a long-term continuous process that needs to be a coherent part of the educational system in Kuwait, as ICT implementation requires a long period of time to become part of the community's daily life, according to the findings of this research, the literature review and other studies referred to earlier.

### **7.3.3 Recommendations Related to School Management**

The following recommendations are directed at the school management:

- School management should have more active role in the educational process and not just be a transmitter and a supervisor of MoE instructions. This does not mean that school principals should work in isolation from the MoE, but they should have a school vision that enables the achievement of educational aims and objectives in more creative ways. They should lead the school to establish an appropriate educational environment, where students, teachers and the administration work as a team to achieve their educational and social objectives.
- School management needs to support enthusiastic students and teachers in implementing ICT in their learning and teaching and use them as models to encourage other teachers to develop their ICT competencies. They also need to use the school's resources and benefit from ICT teachers, students and teachers having good ICT skills to establish and maintain active school websites and local school networks and to provide internal ICT training courses for other teachers. The findings showed that teachers' time is among the hindrance factors, therefore the



school management should consider this factor by reducing teachers' workload in order to give them enough time to prepare for ICT activities implemented in classes, which may require increasing the numbers of teachers in schools.

- Schools management should review their internal assessment and evaluation criterion in the light of the assessment and evaluation criterion of the MoE and other local and international educational bodies. This will help in having a continuous evaluation of self-development that will help to sustain students' and teachers' enthusiasm in achieving their educational objectives.

### **7.3.4 Recommendations Related to Teachers**

The following recommendations are directed at the teachers:

- Teachers should keep developing their educational ICT competencies through self-learning and not rely only on training courses provided by the MoE or school. As English language teachers, they will not find it difficult to explore and benefit from the thousands of educational websites on the internet addressing new teaching methods and activities in implementing ICT. In addition, the English language will enable them to benefit from hundreds of items of global educational research into ICT implementation.
- The findings showed that students are using ICT for communication, entertainment, surfing the internet and, recently, sharing social information. Teachers should encourage students to benefit from their personal ICT competence in their English language learning and other subjects for example, by explaining to them how they may benefit from dictionaries if they download one onto their mobile phones, as this will help to build their English vocabulary.
- Teachers teaching Years 10 and 11 must practice and implement ICT for activities available in the new textbook. They may use their personal laptops if their school

still does not have enough computers. In the worst-case scenario, they can ask students to do some of the activities at home and send them by email.

- Teachers should keep in mind that ICT implementation has spread widely among individuals in Kuwait during the last two years, due to the drop in Internet costs in 2008 and the spread of the new generations of mobile phones, such as the iPhone and BlackBerry. People are increasingly using ICT for many of their daily needs, and this may shorten the new invention maturity time, and ICT will be implemented in government secondary schools sooner or later meaning that teachers should develop their ICT skills before finding themselves falling behind their colleagues and students.

#### **7.4 Strengths of the Study and Contribution to Knowledge**

Very little research has been carried out in Kuwait with regard to ICT implementation. The principal strength of this study is that it is the first comprehensive local research investigating influential factors on ICT implementation in government secondary schools in Kuwait. Different ICT implementation-related factors have been investigated during this study, through various data collection instruments: questionnaires, documentary research and a number of interviews. Students', teachers' and educators' opinions have been explored and investigated with regard to the many research questions. The diversity of the research area's dimensions, the instruments of data collection and the range of participants are other important strengths of this study, although it has required huge time and effort to achieve them. The findings have revealed very important information about the readiness of government secondary schools and the main difficulties facing ICT implementation. Teachers' opinions about the importance of ICT implementation and other related issues have been investigated, in addition to the MoE's strategies and

decision-making policies. This study also has pointed out many important political factors that have influenced the hindrances to ICT implementation. This study has revealed the main requirements for better ICT implementation from teachers' perspectives. The findings of this study will inform decision-makers in the government, the MoE, school management and teachers with a deep and comprehensive understanding of the main influential factors surrounding ICT implementation in government secondary schools. The numbers of teachers who responded to the second questionnaire, 306 teachers from boys and girls schools from all educational areas of Kuwait, in addition to interviewing 10 teachers, 3 MoE decision-makers and 2 members of the National Assembly of Kuwait, is an important additional strength to this study. In general, this study can contribute to existing body of research on the integration of ICT in government secondary schools in developing countries. Developing countries have much in common in terms of technology initiatives as well as the barriers they are facing to integrate ICT implementation in their educational systems. The findings of the study may serve as a guide for future researchers who wish to examine barriers if ICT implementation in in similar educational contexts.

In particular, this study will make a significant contribution into three interrelated educational areas. Those areas are; teachers' development in relation to ICT implementation, the field of educational research in Kuwait, and finally the government and MoE in their plans to integrate ICT into practice in the Kuwaiti educational system.

In terms of teachers' development in government secondary schools, the study will provide insight for the importance of teachers' pre-service and in-service preparation and other teachers' qualifying requirements. This study shows the importance of teacher to insist to participate in the planning process of teacher preparation and

training programs. Findings of this study could help to increase teacher' awareness of the contextual factors affecting teachers' beliefs and in classes practice of ICT.

In terms of potential significance of this study for educational research in Kuwait, the study provides a pattern for further research in education regarding the importance of using the mixed research framework in educational research directed, mainly, to teachers. This approach explores and investigates teachers' ideas through what they say and do and not through what researchers and policy makers expect about them. In relation to research methodology, the study provides the educational research body with an example in using a multi-dimensional approach using documents, questionnaire and interviews. In terms of sampling of the study, this study sets an example of targeting different related individual in different related contexts to have a broad comprehensive understanding of the researched phenomena.

.In addition, this study has shown that ICT implementation is an integration of many factors including planning, policies, school infrastructure, teachers' preparation and training and other related financial, social and political influencing factors. On the other hand, this study has contributed to the global literature in two dimensions. The first dimension is that it confirms findings of earlier research, such as that by Cuban (2001), Tearle (2004) and Carmichael and Procter (2006), with regard to the importance of integration factors, such as preparing the school infrastructure, teacher preparation and training and curriculum development to reduce teachers' workload, for successful ICT implementation. The second contribution this study has added to the literature consists of two parts. The first is the 'completion of ICT maturity' or 'the end of ICT lag' and the second is the role of Internet cost reduction in spreading ICT implementation.

Although educational ICT implementation has not yet taken place in Kuwaiti secondary schools, this study revealed that personal ICT implementation among

students and teachers and other members of the community is spreading rapidly for different personal reasons. When comparing the findings of this study, which were established in 2009-2010, with findings of earlier research, such as that by Cuban in 2001, it can be noted that the numbers of students and teachers using ICT have rapidly increased during the period between the two studies. In addition, some enthusiastic teachers in Kuwait are implementing ICT for educational purposes, in spite of the limited ICT facilities available in Kuwaiti schools, by relying on their personal resources. Bearing in mind the huge technological gap between the Silicon Valley and Kuwait, this study confirms the enormous jumps that technologies have made during the last eight years. This rapid spread of ICT throughout communities makes students and teachers more prepared to implement ICT for educational reasons than in 2001. In Cuban's study, the school was more advanced than the external environment while in this study, in a different context and different period of time, the external environment seems to be ahead of schools.

The drop in Internet charges has encouraged many teachers and students to have wireless or mobile Internet access to use personally, for communication, entertainment, surfing and e-mails. Some teachers have started using their personal laptops, projectors and internet access in class during their teaching process. This confirms that, if the MoE provided reliable permanent internet access and access to database centres and educational information resources, teachers and students would probably increase their educational ICT implementation in schools. This study bases the ground for more educational research in Kuwait and may prompt additional large and small-scale research studies in barriers of ICT implementation in the future. In relation to global research, this study may add a perception on the Kuwaiti teaching context to the worldwide literature on ICT implementation.

In relation to significant potentials this study may have for the government and MoE in their plans to integrate ICT into practice in the Kuwaiti educational system, this study is a comprehensive introductory and guideline for many important aspects of requirements for better ICT implementation in government secondary schools. This study draws the attention to the fact that strong intention to implement ICT in education is not enough to have good results unless having a professional precise and stable educational policy. It also informs about having a strong and qualified management, which is capable to plan, execute, monitor and continuously evaluate and develop educational and ICT plans and projects. This study also raises the fact that imposing of ICT projects by MoE in schools does not encourage any change to take place in teachers' practice, unless teachers and other related individuals are aware of those projects and are able and willing to integrate them into their belief systems. The study also contributes to inform decision makers about the importance of schools readiness in terms of infrastructure, curriculum and other related issues, in addition to different sociocultural and political dimensions. The study also is contributing to alert educational policy makers to the dangers of a gap between theory and practice and the importance to encourage local educational research instead of importing and implementing ready international educational projects without prior testing and evaluation and without considering contexts differences.

### **7.5 Limitations of the Study**

One of the limitations of this study in its early stages was the lack of literature related to ICT implementation in government secondary schools and English language teaching in Arabian and Kuwaiti educational environments. Most of the related literature in Kuwait was theoretical and was not aimed at government secondary schools. Another limitation that faced the piloting part of the research was the time

factor, since the piloting part of the study took place during the last month of the educational year 2007/2008, at which time teachers and students were very busy and did not have much time to spare. As the piloting part of the study was an exploratory section and the researcher had not planned to question or interview a large number of participants, this limitation did not hinder the achievement of the objectives of the first phase of the study. Furthermore, the main part of the research has maintained coverage of all areas of investigations that might have been missed during the piloting part of the study.

## **7.6 Further Research**

The findings of this research have yielded some insights that could be suggested as future research topics:

- Evaluating ICT implementation for ICT activities in the new English Language text (Over To You) applied in 2009/2010 in classes 10 and 11.
- Evaluating work environment at government secondary schools in Kuwait and its impact on ICT implementation.
- Within the next two years, the researcher may suggest investigating the impact of the recent spread of personal ICT implementation in the Kuwaiti community and the impact of the reduction of Internet cost on educational ICT implementation in government secondary schools.
- Within the next two years, the researcher may suggest investigating the progress of the Strategic Plan of Education (SPE) and Kuwait Development Plan (KDP) in relation to ICT implementation in government secondary schools.
- Comparing ICT implementation in government secondary schools with ICT implementation in private secondary schools in Kuwait.

## **7.7 Conclusion**

As ICT implementation is taking place in many secondary schools around the world, this study has investigated factors influencing ICT implementation in government secondary schools in Kuwait. It has looked at the readiness of secondary schools in relation to ICT infrastructure, the curriculum and teachers' preparation and training. It also looked at the main difficulties facing ICT implementation and the policies and strategies of decision-making. Teachers' views with regard to the importance of ICT implementation were also investigated, in addition to the socio-political impact on ICT implementation. Finally, the requirements for better ICT implementation were generated from the findings. Literature in Kuwait and the Arabian Gulf region was limited, therefore Western, Arabian and Eastern literature were used, in addition to what was found in local and regional literature, to draw the theoretical framework of this study and determine its approach and methodology. The research approach looked at ICT implementation as a whole and focused on the most influential ICT dimensions related to the government, the MoE, school management and teachers. In spite of the breadth and depth of this study, I can confirm that ICT implementation in secondary schools in Kuwait is an area that still needs an extensive research and investigation.



## References

- Abdelhameed, H.H., & Alsayyed, A.J. (2004). Electronic Government in Education, Theory and Implementation. *Journal of College of Education in Zaqazeeq. Egypt*, 46 (January 2004), 45-114.
- AHDR (Arab Human Development Report). (2003). *United Nations Development Programme*. Retrieved September 2006, from [http://www.rbas.undp.org/ahdr/press\\_kits2003/1\\_AHDR03%20E1\\_FINAL.pdf#search=%22ICT%20education%20Arab%20countries%22](http://www.rbas.undp.org/ahdr/press_kits2003/1_AHDR03%20E1_FINAL.pdf#search=%22ICT%20education%20Arab%20countries%22).
- Ahmed, N. (2007). *Youth and ICT as Agents for Change*. Secretariat of the Global Alliance for ICT and Development, UNDESA. Retrieved April 2011, from <http://unpan1.un.org/intradoc/groups/public/documents/gaid/unpan035691.pdf>
- Ahram News. (2011). Kuwaiti activists support demand for a constitutional monarchy. *AhramOnline*, Retrieved 24 September 2011, from <http://english.ahram.org.eg/NewsContent/2/8/21253/World/Region/Kuwaiti-activists-support-demand-for-a-constitutio.aspx>
- Ajzen, I., & Fishbein, M.A. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs: Prentice-Hall.
- Albadri, H., & Zeidan, S.H. (2011, March 24). Curriculum between hope and practice. *Alwatan Newspaper, Kuwait*. Edition 12656/7102, pp. 44-45.
- Albannai, O. (1997). Technology education curriculum issues in Secondary Schools: A comparative study between Britain and Kuwait. *IDATER 1997 Conference*, 174-180. Retrieved June 2008, from <http://dspace.lboro.ac.uk/dspace/bitstream/2134/1471/3/albannai96.pdf>

- Al Bustan, S. (2005). *ICT implementation in Kuwait University*. (Unpublished paper about technology divide). Kuwait University, Kuwait.
- Al Dhafeeri, F. (2005) Effects of Personal and Academic Characteristics of Preservice Teachers on their Attitude and Anxiety towards Computer Use in Instruction. *Journal of College of Education*. Kuwait. 74 (March 2005), 43-83.
- Al Dhafeeri, F., Almulla, M., & Alraqas, B. (2006). Teachers' expectations of the impact of E-learning on Kuwait's public education system. *Social Behavior and Personality*,
- Aldowaisan, T, (2010). Towards balancing Kuwait Development Plan. *Gulf Lead Consultant*. July 2010. Retrieved October 2011, from <http://glc-im.com/publications/Balanced.Obj.s.E.pdf>
- Alenezi, F. (2009). *Rationing budget of pre-University education in Kuwait by administrative re-engineering*. (Unpublished Master's thesis). College of Education, Kuwait University, Kuwait.
- Alfureih, S., Alsadoon, H., & Obeid, W. (1996). Kuwait Intermediate School Information Technology Project- K.I.S.I.T.P. *Journal of Education*. Centre of Educational Research and Curriculum in Ministry of Education. Kuwait. 18 (June 1996), 74-83.
- Al Harbi, N.S. (1998). *Administrations of computer in governmental authorities in KSA obstacles and solutions*. (Unpublished Master's thesis). University of King Saud. Riyadh, Saudi Arabia.
- Al-Hashimi, H.N. (2002). *The key elements which have influenced faculty members' understanding and attitudes towards the use of educational technology in higher education with particular reference to Sultan Qaboos University, Oman*. Published PhD thesis: University of Exeter, United Kingdom.

- Almufarrej, B., Almuteiri, A., & Hamada, M. (2007). *Modern trends in teacher preparation and training*. Kuwait: Administration of Research and Educational Development, Ministry of Education.
- Al Othman, B. (2003). *How participation in a CoP informs and influences personal teaching?* Event number #4101 at the TESOL 2003 Convention, Baltimore, Maryland, USA. Retrieved May 2007, from [http://www.geocities.com/esl\\_efl\\_ku/](http://www.geocities.com/esl_efl_ku/)
- Al-Ramiz, F. (2009). Governmental education in Kuwait, problems and ways of solutions. *AlTaleemAlarabi News*. Retrieved May 2011, from <http://www.altaalim.org/akhbar2.php?id=15547>
- Al Rasheedi, G.H. (2010). TV Interview about: Educational Problems and Strategies, Alyoum Alsabie Programme, Watan TV. Retrieved September 2011, from <http://www.youtube.com/watch?v=cR7uw3PhxL0>
- Al-Saleh, B. (2003). *The future of educational technology and its role in making change in methods of teaching and learning*. Unpublished dissertation, King Saud University, Riyadh, Saudi Arabia.
- Al-Wakeel, S., Al-Uraini, A., Al-Salama, A., & Al-Mubarak, A. (2005). *Essentials of computers*. Jeddah: Al-Madina Al-Monwara Printing Press.
- Al Wardan, M. (2009, May 3). New major sheets but kept on shelves, curriculum development in College of Education. *AlQabas Newspaper*, 12905, p. 12.
- Al-Watan Newspaper. (2007). Delay of ICT projects in MoE. *Local News*, Issue 11293-5739, Year 46, p. 22. Kuwait
- Al-Watan Newspaper. (2009). ICT projects in MoE. *Local News*, Issue 11994-6440, Year 48, p. 10. Kuwait
- Al-Watan Newspaper. (2010). Network installation in schools in MoE. *Local News*, Issue 12330-6776, Year 49, p. 4. Kuwait

- Al-Watan Newspaper. (2010). Support of ICT role in schools and developing Knowledge Community. *Local News*, Issue 12227-6673, Year 49, p. 2. Kuwait
- Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology using classrooms? *Computers & Education*, 39, 395–414.
- BBC NEWS, Middle East. (2010). *Kuwait rally: PM Sheikh Nasser faces quiz over clash*. Retrieved June 2011, from <http://www.bbc.co.uk/news/world-middle-east-11961692>
- Becta. (2004). *A review of the research literature relating to ICT and attainment*. Version 1, January 2004. Retrieved March 2009, from, <http://www.becta.org.uk>
- Becta. (2007). *Key findings for Further Education Colleges based on evidence from the evaluation of the ICT Test Bed Project*. Retrieved April 2010, from [http://www.evaluation.icctestbed.org.uk/files/Key\\_findings\\_FE\\_learning.pdf](http://www.evaluation.icctestbed.org.uk/files/Key_findings_FE_learning.pdf)
- Bell, J. (1996). *Doing your research project*. Buckingham: Open University Press.
- Bell, L., & Stevenson, H. (2006). *Education policy: Process, themes, and impact*. Oxon: Routledge.
- Berg, Z., & Collins, M. (1995). Computer-mediated communication and the online classroom: overview and perspectives. *Computer-Mediated Communication Magazine*. 2 (2, February 1, 1995): 6. Retrieved 15 August 2006, from <http://www.december.com/cmc/mag/1995/feb/berge.html>
- Biesta, G.J.J. (2005). *Why 'what works' won't work. Evidence based practice and the democratic deficit of educational research*. Paper presented at the annual meeting of the American Research Association, April 2005, Montreal, Canada.
- Biesta, G.J.J. & Burbules, N.C. (2003). *Pragmatism and educational research*. Boulder, CO.: Roman & Littlefield.

- British Council. (2007). *A scoping study of areas for reform and development within the Education Service of the State of Kuwait*. Kuwait: Ministry of Education.
- British Council. (2008). *The transformation of general education: A view of the outcomes of the transformation of General Education*. Kuwait: Ministry of Education
- Buarki, H. (2010). *Towards an improvement of LIS Graduates' ICT skills and employability needs in Kuwait*. (A Doctoral Thesis). Department of Information Science, Loughborough University, United Kingdom.
- Bryman, A. (2004). *Social research methods*. (2<sup>nd</sup> ed.) Oxford: Oxford University Press.
- Carmichael, P., & Procter, R. (2006). Are we there yet? Teachers, schools and electronic networks. *The Curriculum Journal*. 17 (2, June 2006), 167–186
- Cassidy, T. (2008). *The Kuwait School Reform Programme*. Post-conference recommendations of the task team of the National Conference on Education Reform, 17-19 February, 2008, Kuwait.
- Chapelle, C. (2001). *Computer applications in second language acquisition: Foundations for teachers*. Cambridge: Cambridge University Press.
- Cohen, L., Manion, L., & Morrison, K. (2003). *Research methods in education*. Oxon: Routledge Falmer.
- Collins, A., & Halverson, R. (2009). *Reforming education in the age of technology. The Digital Revolution and schooling in America*. New York: Teachers College Press.
- Constitution of Kuwait. (1962). Article 40, Compulsory and Free Education
- Creswell, J.W. (2003). *Research design: qualitative, quantitative, and mixed method approaches*. (2<sup>nd</sup> ed.) London: Sage Publications.

- Crotty, M. (2003). *The foundations of social research. Meaning and perspective in the research process*. London: SAGE.
- Cuban, L. (1986). *Teachers and machines: The classroom use of technology since 1920*. Teachers College Press. New York
- Cuban, L. (2001). *Oversold and underused computers in the classroom*. USA: Harvard University Press.
- Cuban, L. (2010). *Utopians and sceptics on classroom technologies: Where are you on the continuum?* Larry Cuban on school reform and classroom practice. Retrieved March 2011, from <http://larrycuban.wordpress.com/2010/03/17/utopians-and-skeptics-on-classroom-technologies-where-are-you-on-the-continuum/>
- Daniels, H. (2004). Activity theory: Discourse and Bernstein. *Educational Review*, 56(2), 121-132.
- deVaus, D. (2004). *Surveys in social research*. London: Routledge.
- Dey I. (1999) *Grounding Grounded Theory Guidelines for Qualitative Inquiry*, San Diego: Academic Press.
- Dillon, P., & Ahlberg, M. (2006). Integrativism as a theoretical and organisational framework for e-learning and practitioner research. *Technology, Pedagogy and Education*, 15(1), 7-30.
- Dudeney, G. (2000). *The internet and the language classroom*. Cambridge: Cambridge University Press.
- Duta, S., & Coury, M. (2004). ICT Challenges For the Arab World, *Arab World, INSEAD* (November 2004), 116-131.

- ESCWA, (2005). National profile of the information society in Kuwait. United Nations. Retrieved April 2010, from <http://www.escwa.un.org/information/publications/edit/upload/ictd-05-6.pdf>
- ESCWA, (2007). National profile of the information society in Kuwait. United Nations. Retrieved April 2010, from <http://www.escwa.un.org/wsis/reports/docs/Kuwait-07-E.pdf>
- ESCWA, (2009). National profile of the information society in Kuwait. United Nations. Retrieved October 2010, from <http://www.escwa.un.org/wsis/reports/docs/Kuwait-09-E.pdf>
- Etedali, M. (2009). *Towards a model for e-learning in English Language teachers' in-service training in Kuwait*. Paper presented in First Kuwait e-Systems and e-Services Conference Kuwait University, November 17-19, 2009.
- Faris, S., Albeloushi, M., & Alfailakawi, S. (2009). *Organising spending for government education in Kuwait*. Kuwait: Planning Administration, MoE.
- Frost, R. (1916). Mountain Interval. *The Road Not Taken*. Poem. Retrieved May 2009, from <http://maryourmother.net/Frost.html>
- Fullan, M. (2001). *Leading in a culture of change*. San Francisco: Jossey-Bass.
- GAID. (2009). *White paper information & communication technologies (ICT) in education for development*. New York. Retrieved May 2010, from <http://unpan1.un.org/intradoc/groups/public/documents/gaid/unpan034975.pdf>.
- Geser, G., & Olesch, T. (2000). ICTs and e-learning in Austrian schools. *International Journal of Educational Policy, Research and Practice*, 1(3, 2000), 307-316.

- Gipson, S. (2003). *Issues of ICT, school reform and learning-centered school design. International research associate perspectives*, National College for School Leadership, Spring 2003. Retrieved July 2011, from [www.ncsl.org.uk](http://www.ncsl.org.uk).
- Glaser, BG (1992) *Basics of grounded theory analysis Emergence vs. forcing*  
California: Sociology Press
- Glaser, B. G. (1998). *Doing grounded theory. issues and discussions*. Mill Valley, CA: Sociology Press.
- Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Hawthorne, NY: Aldine Publishing Company.
- Gorghiu, G., Gorghiu, L., Olteanu, R., & Dumitrescu, C. (2006). Pedagogical use of ICT – an analysis based on the teachers’ opinions. *Current Developments in Technology-Assisted Education*, 1, 581-585
- Haines, S. (2009). *Over to you, Students book Grade 10*. Pearson Longman
- Harrison, C. (2006). Postmodern research and e-learning: anatomy and representation. *European Educational Research Journal*, 5(2), 80 – 93.
- Harrison, C., Comber, C., Fisher, T., & Haw, K. (2003). *ImpaCT2*. Becta.UK
- Haydn, T., & Barton, R. (2008). “First do no harm”: Factors influencing teachers' ability and willingness to use ICT in their subject teaching, *Computers & Education*, 51, 439-447.
- Higgins, S. (2003). *Does ICT improve learning and teaching in schools?* Nottingham: British Educational Research Association. Publication type: Monographs. ISSN/ISBN: [0946671-19-2](http://www.bera.org.uk)



- Hollingsworth, C. (2005). Comparing Hong Kong & Sweden's ICT policy in education: Reaching the third phase, *Education Resources Information Centre*. Retrieved November 2008, from [http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/1b/d1/16.pdf](http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/d1/16.pdf)
- Hubbard, P., & Levy, M. (2006). The scope of CALL education. In P. Hubbard & M. Levy (eds.), *Teacher education in CALL*. Amsterdam: John Benjamins, 2-20.
- Jones, A. (2004). *A review of the research literature on barriers to the uptake of ICT by teachers*. Becta. UK
- Keyton, J., King, T., Mabachi, N. M., Manning, J., Leonard, L. L., & Schill, D. (2004). *Content analysis procedure book*. Lawrence, KS: University of Kansas.
- Kuwait National Assembly. (2011). History of Democracy. Retrieved November 2011, from <http://www.kna.kw/clt/default.asp>
- Kuwait University, (2010). Modules' lists of academic year 2010/2011, College of Education, English Language, Intermediate and Secondary. Retrieved September 2010, from [http://www.kuniv.edu/cons/groups/ku/documents/ku\\_content/ku\\_002642.pdf](http://www.kuniv.edu/cons/groups/ku/documents/ku_content/ku_002642.pdf).
- Kvale, S. (2009). *Doing interviews*. London: Sage.
- Lantolf, J.P. (2000). Introducing sociocultural theory. In J. P. Lantolf, (Ed.), *Sociocultural theory and second language learning*. Oxford: Oxford University Press. 1-26
- Leinonen, T. (2006, June 23). *Critical history of ICT in education - and where we are heading?* Flosse Posse, Free, libre and open source Software in Education.

Retrieved May 2008, from <http://flosse.dicole.org/?item=critical-history-of-ict-in-education-and-where-we-are-heading>

MacCulloch, G. (2004). *Documentary research in education, history and the social sciences*. London: Routledge Falmer.

Mansour, N. (2009). Science Teachers' Beliefs and Practices: Issues, Implications and Research Agenda. *International Journal of Environmental & Science Education* Vol. 4, No. 1, January 2009, 25-48

Marshall, P. (1997). *Research methods*. Wiltshire: Cromwell Press.

Marti, M. (2006). Teacher training in ICT-based learning settings: Design and implementation of an on-line instructional model for English Language Teachers. (PhD Thesis). Universitat Rovira I Virgili, Spain.

Matthew, K., Callaway, R., Letendre, C., Kimbell-Lopez, K., & Stephen, E. (2002). Adoption of information communication technology by teacher educators: One-on-one coaching. *Journal of Information Technology for Teacher Education*, 1(1), 45-62.

Ministry of Education. Kuwait, (2005). Strategic Plan of Education, 2005 -2025.

Website of Ministry of Education, Kuwait. Retrieved June 2011, from <http://www.moe.edu.kw/ layouts/moe/Forms/schools2/aasema/intermedschools/boys/EL%20KHALEEL%20SITE/strategy.pps#340,2,Slide 2>

Ministry of Education. Kuwait, (2007). Schools websites. Retrieved 2 March 2007, from <http://www.MoE.edu.kw>

Ministry of Education. Kuwait, (2007). ICT technical agreement between MoE and Sisco. Retrieved 5 March 2007, from [http://www.MoE.edu.kw/MoE\\_news/webform2.aspx](http://www.MoE.edu.kw/MoE_news/webform2.aspx)

- Ministry of Education. Kuwait, (2008). Educational spending and student cost. Educational year 2004/2005. Kuwait: MoE..
- Ministry of Education. Kuwait, (2011). Document of general aim of education. Retrieved February 2011, from [http://www.moe.edu.kw/\\_layouts/moe/Forms/schools2/mobarak\\_alkabeer/internedschools/girls/ramlah2/one.htm](http://www.moe.edu.kw/_layouts/moe/Forms/schools2/mobarak_alkabeer/internedschools/girls/ramlah2/one.htm)
- Mumtaz, S. (2000). Factors affecting teachers' use of information and communications technology: A review of the literature. *Journal of Information Technology for Teacher Education*, 9(3), 319-341.
- Murphy, P., & Ivinson, G. (2003). Pedagogy and cultural knowledge: A sociocultural perspective. *Pedagogy, Culture & Society*, 11(1), 5-9.
- Nawashi, Q. (2004). Foundations of using information communication technology in education. *Journal of Education*. Qatar, 22(149, 2004), 238-249.
- Nunan, D. (1999). *Research methods in language learning*. Cambridge: Cambridge University Press.
- Ofsted. (2001). *ICT in schools: the impact of Government initiatives. An interim report. April 2001*. London: Office for Standards in Education.
- Pallant, J. (2001). *SPSS survival manual: A step by step guide to data analysis using SPSS*. Buckingham: Open University Press.
- Papert, S. (1993). *The Children's Machine: Rethinking school in the age of the computer*. New York: Basic Books.
- Pelgrum, W.J. (2001). Obstacles to the integration of ICT in education: Results from a worldwide educational assessment. *Computers & Education*, 37, 163-178.

- PIRLS, (2006). *Progress in International Reading Literacy Study, 2006. International Report*. Boston College, USA. p. 37. Retrieved April 2010, from [http://timss.bc.edu/pirls2006/intl\\_rpt.html](http://timss.bc.edu/pirls2006/intl_rpt.html)
- Pring, R. (2000). *Philosophy of educational research*. London/New York: Continuum.
- Registry Office. (1993/1994). *University students' guide*. Kuwait University.
- Registry Office. (2007/2008). *University students' guide*. Kuwait University.
- Sa'aada, J., & Sartawi, A. (2003). *The use of computers and internet in education* (Arabic). Amman: Al Shorok.
- Säljö, R. (2000). *Lärande i praktiken - ettsociokulturelltperspektiv*. Stockholm: Prisma, cited in J. Bergenholtz (2004). *An interactionist and task-based approach to computer-assisted language learning materials*. (Master's thesis in the domain of ICT and learning). Göteborg, Sweden.
- Scrimshaw, P. (2004). *Enabling teachers to make successful use of ICT*, Becta.UK
- Selinger, M., & Austin, R. (2003). A comparison of the influence of government policy in information and communications technology for teacher training in England and Northern Ireland. *Technology, Pedagogy and Education*, 12(1), 19-38. Retrieved 23 December 2007, from <http://www.triangle.co.uk/jit/>
- Selwyn, N. (1999). Why the computer is not dominating schools: A failure of policy or practice? *Cambridge Journal of Education*, 29(1), 77-91.
- Selwyn, N. (2008). Realising the potential of new technology? Assessing the legacy of New Labour's ICT agenda 1997-2007. *Oxford Review of Education*, 34(6), 701-712.
- Silverman, D. (2001). *Interpreting qualitative data: Methods for analysing talk, text and interaction*, (2<sup>nd</sup> ed.). London: Sage Publications.

- Stevenson, D. (1997). *Information and communication technology in UK schools: An independent inquiry*. London: The Independent ICT in Schools Commission.
- Teachers' Association of Kuwait, (2010). *Importance of teachers' roles in decision making*. Retrieved June 2011, from <http://www.moalem.org/newsid/49>.
- Tearle, P. (2002). *Implementation of information and communications technology for teaching and learning in secondary education in the United Kingdom*. (PhD Thesis). Exeter University, Exeter.
- Tearle, P. (2003). ICT implementation: What makes the difference? *British Journal of Educational Technology*, 34(5, 2003), 567–583.
- Tearle, P. (2004). *Implementation of ICT in UK secondary schools*. Presentation at Becta Research Conference, Coventry.
- Thomas, J. (2005). *What teachers and students do with ICT in ELT*. ICT 4 ELT (2005). Retrieved December 2009, from <http://www.fi.muni.cz/ICT4ELT/courses/ICT4ELT.html>
- TIMSS, (2007). *Trends in international mathematics and science studies, 2007 Report*. Retrieved May 2009, from [http://timss.bc.edu/TIMSS2007/PDF/T07\\_M\\_IR\\_Chapter3.pdf](http://timss.bc.edu/TIMSS2007/PDF/T07_M_IR_Chapter3.pdf)
- Transparency International, (2005). *Global corruption report*. London: Pluto Press
- Turner, S. (2004). *Learning in a digital world: The role of technology as a catalyst for change*. University of Education, Winneba, Ghana. Retrieved 15 April 2008, from <http://www.neiu.edu/~ncaftori/sandy.doc>
- United Nations Global E-government Readiness Report. (2005). Department of Economic and Social Affairs. Division for Public Administration and Development Management. United Nations: New York.

- UNESCO Institute for Statistics. (2009). *UIS statistics in brief: Education (all levels) Profile – Kuwait*. Retrieved June 2011, from [http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF\\_Language=eng&BR\\_Country=4140&BR\\_Region=40525](http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=4140&BR_Region=40525)
- Vygotsky, L.S. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.
- Walker, S.A. (2003). *The contribution of computer-mediated communication in developing argument skills and writing-related self-esteem*. (Unpublished PhD thesis). School of Education, University of Leeds, Leeds. Retrieved 1 June 2004, from <http://cblpc0142.leeds.ac.uk/~aisha/thesis.pdf>
- Walker, S., & Creanor, L. (2005). Crossing complex boundaries: Transnational online education in European trade unions. *Journal of Computer Assisted Learning*, 21, 343-354.
- Warschauer, M. (1995). *E-mail for English teaching*. Illinois: Pantograph Printing.
- Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*, 31, 57-71.
- Warschauer, M., & Whittaker, P.F. (1997). The Internet for English teaching: Guidelines for teachers. Originally published in the *TESL Reporter*, 30(1, 1997), 27-33. Retrieved 2 September 2006, from <http://iteslj.org/Articles/Warschauer-Internet.html>
- Watson, D. 1998, Blame the technocentric artefact! What research tells us about problems inhibiting teacher use of IT. In G. Marshall & M. Ruohonen (Eds.), *Capacity building for IT in education in developing countries*. London: Chapman & Hall.
- Watson, D. (2001). Pedagogy before technology: Re-thinking the relationship between ICT and teaching. *Education and Information Technologies*, 6(4, 2001), 251–

266. Retrieved January 2011, from

[http://cursea.ihmc.us/rid=1129290598718\\_1343349371\\_1835/watson\\_pedagogy\\_bef\\_technol\\_2001.pdf](http://cursea.ihmc.us/rid=1129290598718_1343349371_1835/watson_pedagogy_bef_technol_2001.pdf)

Wegerif, R. (2005). *Towards a dialogic understanding of the relationship between CSCL and Teaching Thinking Skills*. In Proceedings of the 2005 Conference on Computer Support for Collaborative Learning. Learning 2005: the Next 10 Years! (Taipei, Taiwan, May 30 – June 04, 2005). Computer Support for Collaborative Learning, International Society of the Learning Science, 707–716.

Wheeler, D.L. (2003). The Internet and Youth Subculture in Kuwait. *Journal of Computer Mediated Communication*, 8 (2), January. Retrieved 20 July 2006, from <http://www.ascusc.org/jcmc/vol8/issue2/wheeler.html>

Wheeler, S. (2001). Information and communication technology and the changing role of the teacher. *Learning, Media and Technology*, 26(1), 7-17.

Willington, J. (2000). *Educational research: Contemporary issues and practical approaches*. London: Continuum.

Wong, V., Kwok P., & Choi, N. (1995). The use of authentic materials at tertiary level. *ELT Journal*, 49(4), 318-322. Oxford: Oxford University Press.

Zaied, A. N. H., Khairalla, F. A. & Al-Rashid, W. 2007. Assessing e-readiness in the Arab Countries: Perceptions towards ICT environment in public organisations in the State of Kuwait. *The Electronic Journal of e-Government*, 5(1), 77-86, Retrieved 20 July 2010, from [www.ejeg.com](http://www.ejeg.com)

## **Appendices**



## Appendix 1

### Letter from MoE Under-Secretary to School Principals Regarding the Study

75/30/EA0092838/05/50

MINISTRY OF EDUCATION  
ASST. UNDER SECRETARY  
FOR PLANNING AND INFORMATION.

  
وزارة التربية  
الوكيل المساعد  
للتخطيط والمعلومات

الرقم : وت/وط : -----

التاريخ : 2007/9/19م

**حضرات المحترمين / المديرين العامين للمناطق التعليمية  
تحية طيبة وبعد ،**

**الموضوع / تسهيل مهمة الباحث / سعد شاجع العجمي**

يقوم الباحث / سعد شاجع العجمي بإعداد بحث علمي حول  
" استخدامات تكنولوجيا التعليم في المرحلة الثانوية في دولة الكويت " ، وسيتناول  
البحث جميع القرارات الوزارية ذات العلاقة ، كما أن الباحث يرغب باستطلاع  
الآراء حول استخدامات تكنولوجيا التعليم في العملية التربوية في دولة الكويت .  
لذا ؛ نرجو التكرم بالتعميم على المدارس الثانوية فقط (بنين وبنات) التابعة  
لمنطقتكم التعليمية لتسهيل مهمة الباحث المشار إليه أعلاه لاستطلاع آراء بعض  
المدرسين والتربويين بالمدارس الثانوية كما هو موضح أعلاه .  
مع خالص التحية ،

على محمد سيف البراك

  
الوكيل المساعد للتخطيط والمعلومات

وزارة التربية

الوكيل المساعد للتخطيط والمعلومات

نسخة لكل من :

- مكتب السيد وكيل الوزارة
- مكتب الوكيل المساعد للتخطيط والمعلومات
- مكتب الوكيل المساعد للتعليم العام
- مديري عموم المناطق التعليمية
- الملف

P.O.Box 7 Safat, POSTAL CODE : 13001 Kuwait  
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ص.ب. 7 الصفاة - الرمز البريدي 13001 الكويت  
تلفون: ٤٨٣٥٧٢١ (٠٠٩٦٥) - ٤٨٣٥٧٣١ - فاكس: ٤٨١٧٣٨٦ - ٤٨٣٧٢٩٢

## **Appendix 2**

### **Teachers' Questionnaire**

Dear participant,

Thank you very much for accepting the invitation to participate in this research study and to give a lot of your valuable time. I realise that it is important for you to understand why the research is being done and what it will involve.

#### **Title of this study**

**Factors Influencing Information and Communication Technology (ICT)**

**Implementation in Government Secondary Schools in Kuwait**

#### **The purpose of the study**

The purpose of this research is to explore conditions of Information and Communication Technology (ICT) implementations in government secondary schools in Kuwait. The research is taking English language classes as a case study.

This study is using questionnaires, semi-structured interviews and documentary research as tools of data gathering.

#### **Why have you been chosen?**

You have been chosen to participate in this research because of your position as an English language teacher in a Kuwaiti governmental secondary school. The information collected in this study will be kept strictly confidential and will be used only for this research without any individual identification of the participants.

#### **Who has approved the study?**

The University Research Ethics Committee, University of Exeter, has approved this research.

**What is required?**

You are kindly requested to complete this questionnaire which will investigate the following:

Part one: Background of existing ICT implementation.

Part two: Your beliefs towards ICT implementation.

Part three: Conditions of ICT implementation.

Part four: Requirements of better ICT implementation.

The researcher is highly appreciating that you take your own time to complete every question of this questionnaire and put it in the questionnaire box in English language department.

**Thanking you in anticipation.**

Saad Al Ajmi

PhD student,

University of Exeter

# Teachers' Questionnaire

## Conditions of using ICT in English Language classes

(Information provided will be used for educational research only and confidentiality will be maintained)

Please answer the following questions by putting an **X** in the suitable box or writing in the space.

### Part one: (Teachers and school current ICT situation)

#### 1.1 Location of school

- Aasimah       Ahmadi       Jahra
- Hawalli       Farawniya       Mubarak Al-Kabeer

#### 1.2 Gender

- Male       Female

#### 1.3 Nationality

- Kuwaiti       Syrian
- Egyptian       Other: Specify \_\_\_\_\_.

#### 1.4 When have you attended ICT courses (such as: Internet - ICDL....).

I never attended ICT courses.       During the last 2 years.

During the last 5 years.  Before more than 5 years.

**1.5 Is the computer you have at school a personal one or shared with other colleagues?**

Personal  Shared with other colleagues.  Don't have computer at school.

**1.6 Do you have an internet access at school?**

Yes  No

**1.7 Do you have a local network at school?**

Yes  No

**1.8 How would you describe your general use of ICT in this moment?**

Advanced  Intermediate  Limited  Do not use it

## Part two: Teachers' Views Towards ICT Implementations

How do you grade your reaction to the following statements?

Q.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
2.1	ICT could support the learning and teaching process.					
2.2	ICT will motivate students for learning.					
2.3	ICT implementation will prepare my students to deal with new technology in labour market.					
2.4	ICT implementation should be included in curriculum.					
2.5	ICT implementation could morally harm our students.					
2.6	Students in my school have the competence to use new technology.					
2.7	I think that using ICT for teaching is time consuming.					
2.8	Using ICT in my teaching will need more efforts from me.					
2.9	I believe that ICT implementation is difficult in our school.					
2.10	I prefer to keep using traditional way of teaching.					

### Part three: Conditions of ICT implementations

- **Main influential factors of ICT implementation:**  
How do you grade your reaction to the following statements?

Q.	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
3.1.1	Teachers' ability of using new technology supports ICT implementation.					
3.1.2	The syllabus coming from Ministry of Education explains how to implement ICT in class.					
3.1.3	Our department is focusing on using traditional methods of teaching rather than using ICT.					
3.1.4	The number of computers in our school is covering teachers need.					
3.1.5	Fast Internet access is available for all teachers in our school.					
3.1.6	Students have basic requirements of using computers and internet.					
3.1.7	I have the knowledge to implement ICT in my teaching.					
3.1.8	My department provides continuous training of ICT implementation.					
3.1.9	There is an internet access in my class.					
3.1.10	Mentors guide us how to use ICT in teaching.					
3.1.11	<p>Please name three factors you consider as the major constraints of ICT implementation, from those mentioned above or from your own point of view:</p> <p>_____.</p> <p>_____.</p> <p>_____.</p>					

- **Policy of the MoE and Other Socio-political Issues Related to ICT Implementation:**  
**How do you grade your reaction to the following statements?**

<b>Q.</b>	<b>Statement</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly disagree</b>
3.2.1	Delay of development strategy is due to political debate between government & National Assembly					
3.2.2	Frequent change of Minister of Education harms education					
3.2.3	Conflicts among educational groups in the Ministry of Education delay ICT implementation					
3.2.4	All departments in the Ministry of Education support ICT .					
3.2.5	The government financially supports ICT implementation					
3.2.6	Cooperation among different departments in MoE supports ICT implementation					
3.2.7	ICT implementation projects were announced since a long time but a small number of these projects have been executed.					
3.2.8	Noticeable instability due to frequent changes of managers in MoE					
3.2.9	Noticeable influence of political pressure on MoE					
3.2.10	Teachers are not participating in ICT planning					
3.2.11	Political environment in Kuwait influences ICT implementation.					



## **Part four: Requirements of Better ICT Implementation**

**Rank each statement of the following from 1 – 5 according to their importance for ICT implementation?**

(Extremely important = 1 \_\_\_\_\_ 5 = the least important)

### **Section one:** (school's facilities requirements)

<b>Q.</b>	<b>Statement</b>	<b>Rank</b>
4.1.1	Providing schools with enough educational recourses, hard ware and software.	
4.1.2	Preparing schools with sufficient network and Internet access.	
4.1.3	Developing technical support to be available all time in school.	
4.1.4	Including ICT implementation in curriculum.	
4.1.5	Applying ICT in administration communication between schools and Ministry of Education.	

### **Section two:** (Teachers development requirements)

<b>Q.</b>	<b>Statement</b>	<b>Rank</b>
4.2.1	Teachers should be obliged to use ICT.	
4.2.2	Providing Teachers with adequate information about the importance of using new technology in education.	
4.2.3	Providing continuous training for teachers.	
4.2.4	Making ICT literacy a major condition for teachers' employment.	
4.2.5	Including ICT in teachers' preparation programmes.	

**Section three: (Students-related requirements)**

<b>Q.</b>	<b>Statement</b>	<b>Rank</b>
4.3.1	Employing Students eagerness in electronic games and internet educationally.	
4.3.2	Providing students with adequate information about the importance of using new technology in education.	
4.3.3	Providing continuous training for students.	
4.3.4	Encouraging students to use ICT in earlier educational stages	
4.3.5	Encouraging students to communicate with their teachers through e-mail.	

**Section four: (Other related requirements)**

<b>Q.</b>	<b>Statement</b>	<b>Rank</b>
4.4.1	Changing related educational regulations and rules	
4.4.2	Providing educators and parents with adequate information about the importance of using new technology in education.	
4.4.3	Providing political and financial support.	
4.4.4	Using expert management.	
4.4.5	Putting short and long term tangible plans of ICT implementation.	

The researcher is planning to interview a number of teachers for more discussion as the research progress, if you are accepting to participate, please fill in your name\_\_\_\_\_ and your contact number or e-mail\_\_\_\_\_. Your name will not be associated with your responses at any circumstances without your prior consent.

**Thank you so much for giving time to complete this questionnaire**

## Appendix 3: Educators' Interviews

### Introductory Letter, Arabic Version

الموقر

عناية السيد /

السلام عليكم ورحمة الله وبركاته

#### الموضوع / طلب المشاركة في بحث علمي من خلال "المقابلة"

يقوم الباحث منذ ثلاث سنوات بدراسة اشتراطات و معوقات تطبيق تكنولوجيا توصيل المعلومات في فصول اللغة الانجليزية في مدارس المرحلة الثانوية بدولة الكويت. وقد استهدفت الدراسة الاطلاع على ما تحقق من أهداف خطة وزارة التربية الإستراتيجية لتضمين تكنولوجيا المعلومات في النظام التعليمي في الدولة والاطلاع على المعوقات التي تواجهها الوزارة لتحقيق أهدافها وسبل تجاوز تلك المعوقات. وقد استخدم الباحث دراسة وثائقية لعدد من الوثائق ذات العلاقة كما استخدم الاستبانة لجمع المعلومات المتعلقة بالطلبة والمدرسين لمعرفة مدى استعدادهم و دافعيتهم لتطبيق تكنولوجيا المعلومات خلال عملية التعلم.

ونظرا لعدم تمكن أدوات البحث المستخدمة من الإجابة على بعض الجوانب المهمة من الدراسة فقد وجد الباحث ضرورة إجراء "مقابلات" مع عدد من المدرسين و التربويين و متخذي القرار في وزارة التربية والجهات التربوية ذات العلاقة و الذين لهم علاقة ودراسة عميقة في هذا المجال وذلك للتمكن من استكمال الجوانب الغير مكتملة من الدراسة.

مدة المقابلة من ٤٥ – ٦٠ دقيقة وسوف يتم مناقشة الامور التالية:

● استراتيجية الوزارة حول تطبيق التكنولوجيا الحديثة في النظام التعليمي في دولة الكويت.

● ماتم انجازه من هذه الخطة.

● اهم معوقات تطبيق تكنولوجيا توصيل المعلومات.

● متطلبات تطبيق تكنولوجيا توصيل المعلومات بشكل افضل.

نظراً لأهمية رأيكم في هذا المجال كأحد المتخصصين في الدولة و على الرغم من ضيق وقت سيادتكم و فإنني أرجو التكرم بالموافقة على المشاركة في هذه الدراسة وإثراءها بمعلوماتكم القيمة علماً بأن لكم كامل الحرية بالمشاركة أو الانسحاب في أي وقت كما نلتزم بسرية المعلومات المقدمة من قبلكم وعدم استخدامها لغير هذا البحث و المحافظة على سرية الهوية.

مع خالص الشكر والتقدير

سعد العجمي

جامعة إكستر (المملكة المتحدة)

[salajmi30@hotmail.com](mailto:salajmi30@hotmail.com)

## **Educators' Interviews**

### **Introductory Letter, English version for**

Dear Sir/Madame

Good morning/afternoon,

Subject: **Request of participation in an educational research through "interview".**

Since three years, the researcher has been studying **"Factors Influencing Information and Communication Technology (ICT) Implementation in Government Secondary Schools in Kuwait"**. The study intends to explore what have been achieved from Strategic Plan of Education adopted by MoE to include ICT in the educational system in the state. It also aims to find out the barriers facing MoE from achieving its aims and ways of overcoming those barriers. The researcher has used documentary research for some important related documents. In addition, he has used questionnaire for students and teachers to investigate their readiness to implement ICT during the learning and teaching process.

As the previous used research tools have not answered some important areas of the study, the researchers found it crucial to undertake a number of "interviews" with number of teachers and related experienced key educators and decision makers in MoE and related educational organisations. These interviews are expected to cover areas of study that are not yet deeply covered.

Period of interview is 45 – 60 minutes and the following issues will be discussed:

- Strategy of MoE regarding ICT implementation in educational system in Kuwait.
- What have been achieved of ICT implementation strategy?

- Barriers facing ICT implementation.
- Requirements for better ICT implementation.

As you are one of the key experts in this area in Kuwait and despite of your limited time, I wish that you agree to give some of your valuable time to this study. Your participation will enrich this study with your important experience and knowledge. Your participation in this study is voluntary and you are free to withdraw at any time, without giving reason. The information collected in this study will be kept strictly confidential and will be used only for this research without any individual identification.

**Thanking you in anticipation.**

Saad Al Ajmi

PhD student,

University of Exeter

[salajmi30@hotmail.com](mailto:salajmi30@hotmail.com)

## **Guide lines for Teachers and Educators' Interviews**

### **Duration of interview 45-60 minutes**

This interview is prepared to collect data from some teachers, decision makers in Ministry of Education and Members of Educational Committee in National Assembly of Kuwait. Researcher assured that anonymity and confidentiality of all information given by interviewees will be maintained and that information will be used only for research purposes. In addition, researcher confirmed that participants can withdraw at any time. Few questions were asked to teachers only and other questions were directed to decision makers or/and Members of National Assembly. Those questions were signed with letters as follows:

**T = Teachers only**

**D = Decision Makers in MoE**

**M = Members of National Assembly**

**Note: Questions directed to all participants are left without any signing letter.**

1. How would you evaluate current readiness of schools for ICT in relation to infrastructure? (Internet access – Hardware – Software – Network -Technical support)
2. What have been accomplished of preparing schools infrastructure for ICT implementation? New and old schools.
3. What is your evaluation to the current competences of, teachers and mentors to use new technology in education?

4. What have Ministry of Education have done in relation to preparing teachers for effective ICT implementation? (some teachers interviewed earlier stated that ICDL is not enough to prepare them for ICT implementation)
5. What have Ministry of Education done in relation to preparing mentors to be able to guide teachers for effective ICT implementation?
6. Are students able to implement ICT?
7. Is the curriculum designed to include ICT implementation?
8. How does this affect ICT implementation?
9. What plans did MOE is adopting in relation to developing curriculum?
10. How teachers are currently implementing ICT?
11. What applications do they use?
12. What mainly obstructs the implementation of ICT in secondary schools in Kuwait from your point of view?
13. What do you suggest to overcome these obstacles?
14. What policies and strategies have been adopted by MoE to implement ICT in secondary schools?
15. How would you describe the Strategic Plan of Education (SPE) 2005-2025?
16. Are teachers and schools principals participating in planning of (SPE) projects?  
How?
17. What is your evaluation of the practical execution of SPE in relation to ICT?
18. What decisions/projects related to SPE have been executed since 2003?
19. What are the reasons of postponing some of ICT projects such as the “connected school” project that supposed to be executed in educational year 2006/2007? **D/M**
20. What is the time frame assigned for this project? **D/M**

21. What are your views on the importance of ICT implementation in schools?
22. Why do you think teachers do or do not implement ICT in their classes?
23. Do you think the current readiness of the educational environment in secondary schools supports successful ICT implementation?
24. How do you feel when implementing ICT? **T**
25. What political factors support/hinder ICT implementation?
26. Some earlier interviews raised the socio-political inconsistency between government and National Assembly as hindering factor on plans of Ministry of Education, what is your opinion?
27. What social factors support/hinder ICT implementation?
28. What are the major requirements for better ICT implementation in secondary schools from your point of view?
29. Would you like to make any other addition?

**Thank you very much for taking part in this interview.**



## Appendix 4

### A Sample Transcript and Translation of an Interview

#### Interview No. 6

إسم المحاور:	سعد العجمي
رمز المعلم:	TU. 3
المهنة:	مدرسة لغة انجليزية
مكان العمل:	مدرسة العدان الثانوية بنات
المؤهل:	بكلوريوس لغة انجليزية من كلية التربية، جامعة الكويت

• **كيف تقيم جاهزية المدارس الحالية لاستخدام تكنولوجيا المعلومات من جهة البنية التحتية؟  
(الانترنت – أجهزة الحاسب – البرامج – الشبكات – الدعم الفني)**

في السابق ما كان عندنا الا أجهزة كمبيوتر فقط في الادارة، لكن من فترة صار فيه كمبيوتر في كل قسم وطابعه. وعادة تتوفر في الجهاز البرامج الاساسية مثل الاوفيس و الاكسلورر وقاموس اكسفورد و هالاشياء. هالسنه صار عندنا انترنت في القسم بس المشكله انه عندنا جهاز واحد فقط واحنا ثمانية في القسم. (والفصول؟) مافيه عندنا انترنت في الفصول بس انا استخدم جهازي والبروجكتر و الاجو مالي لما استخدم أبي استخدم التكنولوجيا حق صفي. (فيه شبكه في المدرسة؟) فيه شبكة بين الاقسام والادارة ونستخدمها فقط للدرجات والرصد الشهري او الفصلي. (والصيانه؟) فيه فنية تقنيات في المدرسة للداتا شو والاجهزه العادية، احنا ما عندنا تطبيق فعلي للتكنولوجيا فما عندنا صيانه ولما يعطل كمبيوتر القسم يجي أحد من المنطقة التعليمية ياخذه و يصلحه خلال ايام. بشكل عام البنية التحتية في المدرسة ضعيفه و للحين مو جاهزه انها تدعم استخدام التكنولوجيا بس انا قاعده استخدم التكنولوجيا بالاعتماد على مصادرني الشخصية.

• **مالذي تم انجازه من اعداد البنية التحتية للمدارس الحديثة والقديمة لاستخدام تكنولوجيا المعلومات؟**

ما أدري بالنسبه للمدارس الجديدة بس مدرستنا ماتم فيها شي كثير للحين ماعدا تجهيز غرفة ملتيميديا فيها كمبيوتر و بروجكتر وسبوره الكترونية بس صعب ان احنا نستخدمها كل مره وادارة المدرسة ما تحب انها تستخدم الا للحصص النموذجية او اذا بغوا يسوون بررنتيشن للمدرسين أو ضيوف المدرسة.

• **ما عو تقييمك لقدرة المدرسين والموجهين الحالية لأن يستخدموا التكنولوجيا الحديثة في التعليم؟**

والله اهو يعتمد على اجتهادات المعلمين لانه دورة الاي سي دي ال بروحها موكافيه ولازم اجتهاد المدرس وسبحان الله لازم من داخل المدرس يكون فيه حب انه يتعلم يستخدم طرق تدريس جديده موقصة دورات او تأهيل او اجبار اهي شغلة ان المدرس عنده حب تعلم كيف يستخدم هالاشياء يعني اللي خذوا دورة الاي سي دي ال اول ما بدا الدوام موعارفين يستخدمون البور بوينت. لكن مع الممارسه والاستعانه بالزملاء

اللي عندهم خبره -لانهم اصبحوا مجبورين- قاعد يمشون الحال. وهم الان مجبورين لاستخدام الكمبيوتر والكتاب قاعد يركز على عملية التعلم الذاتي فالطلبة اصبح مطلوب منهم تقديم برزنتيشن لتقديم فكرة كاجتهاد ذاتي شخصي. فالمدرس بالنسبة لمادة اللغة الانجليزية اصبح مجبر باستخدام الكتاب الجديد.

• **ماذا عملت وزارة التربية لاعداد المعلمين لاستخدام تكنولوجيا الاتصال بشكل فعال؟ (بعض المقابلات السابقة ذكرت ان دورة الاي سي دي ال غير كافية)**

فيه دورات اختياريه تقدمها الوزارة بس قليل من المدرسن يهتمون في تطوير نفسهم في الكمبيوتر بس ما فيه شي الزامي غي الاي سي دي ال. صحيح اهي مو كافية وتحتاج ممارسه او راح تنسي. بس بالنسبه للانجليزي لازم الحين المدرس يطور نفسه عشان يقدر يستخدم الكتاب الجديد.

• **ماذا فعلت وزارة التربية بخصوص تأهيل الموجهين لتمكينهم من توجيه المدرسين لاستخدام تكنولوجيا الاتصال بشكل فعال؟**

كنتكنولوجيا ما ادري ولكن كمادة علمية يسألونك استخدمت السي دي، هل اهو واضح او غير واضح، استخدمت الكمبيوتر. وهم طلب منهم مثل ما طلب من المدرسين وخذوا الدورة.

• **هل الطلبة قادرين على استخدام تكنولوجيا الاتصال؟**

صعباً. أصلاً الان اكثرهم يعرفون اكثر من المدرسين. بس مو معناته كلهم. بس اغلبهم.

• **هل تم اعداد المنهج ليشتمل على استخدام تكنولوجيا الاتصال؟**

الخطة الدراسية السابقه ما فيها مجال ولا وقت للمدرس انه يستخدم نواد او انشطه من الخارج وتم ربط المدرس بالكتاب وكتاب التمارين ونادرا المسجله عشان بعض تمارين الاستماع. لكن الكتاب الجديد الي طبق هالسنه (٢٠١٠/٢٠٠٩) للصف العاشر فيه انشطه باستخدام تكنولوجيا الاتصال تدعم عملية التعلم الجماعي والتعلم الذاتي وفي نهاية كل درس فيه بعض الروابط من الويب تشجع الطلبة يستخدمون مصادر خارجية للمعلومات. الكتاب الاخير الي بقى ويانا سبع سنوات كان مجهز للامارات اما هالكتاب مطبوع خصيصا للكويت.

**ممكن اطلع على الكتاب؟**

(تم تصفح الكتاب مع المدرس)

• **كيف اثر ذلك على استخدام تكنولوجيا المعلومات؟**

هذا الكتاب يحتوي على انشطه كثيرة من انشطة تكنولوجيا الاتصال و هالشي راح يلزم المدرسين انهم يستخدمون التكنولوجيا وراح ينطلب من الطلبة بشكل منفرد وبشكل جماعي بانهم يعملون بعض الواجبات خارج الصف وراح يستخدمون البوربوينت عشان يقدمون انشطتهم الي انجزوها لزملائهم.

• **ما هي الخطط التي تتبناها وزارة التربية لتطوير المنهج؟**

الوزارة عندها خطط كثيرة و مشاريع عن تطوير التعليم واستخدام تكنولوجيا الاتصال، لكن المشكلة بكثرة التغيير في سياسة الوزارة. ما نستمر على نظام لو على الاقل مدة ١٠ سنوات عشان نعرفه زين ونقدر نقيمه، بالنسبة لخطط المنهج، بصراحة ما عندنا فكره عن خطط الوزارة، ما يستشيرونا في هذي الامور المهمة مع انهم المفروض يسوون هالشي.

• **كيف يستخدم المدرسون حاليا تكنولوجيا توصيل المعلومات؟**

قليل من المدرسين يستخدمون التكنولوجيا في تدريسهم حاليا والي قاعدين يستخدمونه يعتمدون بشكل رئيسي على مصادرهم الشخصية مثل اللاب توب، الداتا شو، والواي فاي الشخصي. وعادة يستخدمون بعض الانشطة اونلاين او يحضرون الدروس ويقدمونها باليوربوينت والداتا شو. بس الحين بعد الكتاب الجديد كل المدرسين لازم يستخدمون التكنولوجيا اذا تم تجهيز الفصول بالمعدات اللازمه.

• **ماهي لتطبيقات التكنولوجيا التي تستخدمها حاليا؟**

استخدم الاوفيس وخصوصا الورد واليوربوينت و ايضا الهوت بوتاييس بالاضافه للاكسلورل الجوجل. وعادة استخدم واشجع طلبتي يستخدمون كثير من مواقع تعلم اللغة لاستخدام العديد الانشطة اللغوية.

• **مالذي يعيق استخدام التكنولوجيا في المدارس الثانوية في دولة الكويت من وجهة نظرك؟**

المسؤولين في الوزارة قاعدين يقولون نبيكم تستخدمون التكنولوجيا و الكمبيوتر ونبيكم تستخدمون الداتا شو ونبيكم و نبيكم واللي نحصله في الصفوف هالسنه عباره عن خزانه فقط وتوصيلة كهرباء وبس. التوجه اليوم حسب كتاب المعلم انك لازم تستخدم الكمبيوتر لازم تستخدم الداتا شو فيه الزام في المنهج وكتاب المعلم انك لازم تستخدم الكمبيوتر في شرح هالجزئية (تعرض جزء من الكتاب الجديد) مثلا هذه بداية الموديول يقول للمعلم انك لازم تعرض بعض الصور جدام الطالب و تعرضهم باستخدام بالداتا شو الكمبيوتر على اساس انك تلعب معاهم قيم لتذكر الصور. يعني انت قاعد تلزمهم في اول درس في بداية الكتاب وفي نفس الوقت ما وفرت لي شي في الفصل!!!

وشي آخر وهو الروتين، عشان استخدم شئ يوقون لازم ترجعين للموجه والموجه يرجع للموجه الاول ... يعني روتين طويل على ما تاخذ اذن. لكن الان مع المنهج الجديد نتأمل يكون الوضع احسن، ممكن

استخدم التكنولوجيا دون الحاجة لأذن وموافقات لأنها موجودة في المنهج وهالامر ماكان موجود في السابق.

• **ماذا تقترح لتجاوز هذه المعوقات؟**

انا في بداية السنة اشترت جهاز داتا شو على حسابي على اساس يكون متوفر معاي طول الوقت واتحاشا تغيير خطة درسي نتيجة نقص الاجهزة لانه عندنا في المدرسه جهازين او ثلاثه داتا شو ولكن فيه حوالي ٩٨ مدرس فلو احتاجوا المدرسين استخدامها فتكون صعبه.

• **مالسياسات والاسراتيجيات التي تتبناها وزارة التربية لاستخدام تكنولوجيا اتصال المعلومات**

**في المدارس الثانوية؟**

الوزارة عادة تحط خطط لتطوير التعليم و في السابق حاولوا تطوير التعليم الثانوي و اسسوا نظام المقررات لكن بعد سنوات الغوه وادخلوا النظام الموحد الحالي من اربع أو خمس سنوات. مشكلة استراتيجيات الوزارة عدم استمرارها لفترات طويلة وانها ما تأسست على بحوث علمية محلية.

• **كيف تصف الخطة الاستراتيجية للتعليم ٢٠٠٥ - ٢٠٢٥؟**

اعتقد انها جيدة وافضل من لاشيئ ولكن اعتقد انها ما نفذت بشكل جيد. نتمنى اشراك المعلمين في الاعداد للخطط والاسراتيجيات التربوية في المستقبل.

• **س- هل تمت مشاركة المعلمين و مدراء المدارس في التخطيط لاستراتيجية ومشاريع التعليم؟**

الخطط عادة تتم في الوزارة وتم تعميمها على المدارس للتنفيذ بدون عمل دراسة. بس احيانا بعض الخطط تتم عن طريق فرق عمل يعمل تقارير من خلال المدارس وهالتقارير تروح لمراقبة التعليم الثانوي وتتجمع في تقرير واحد ويتم رفعه للمسؤولين الكبار في الوزارة. هذي الفرق المشكله من الوزارة احيانا تستشير المدرسين عن بعض الامور التعليمية. مثال، صار العام عندنا مشكله في توزيع الدرجات. كانت ٢١ اعمال تحريري و٩ شفوي فتقسيم الدرجه غير منطقي حسب راي المدرسين وهم يشوفون انه ١٥ و ٣٥ بدال ٩ و ٢١ و تم اخذ آراء المدرسات الى حد ما بس ما صارت مثل ما حنا متوقعين.

لكن مثل هذه اللاستراتيجية المهمة ما أخذوا آراءنا. مثال اعداد الكتاب الحالي، اللجنة ما لنا احتكاك فيها بس اهم ياخذون مدرس او اثنين في بعض اللجان مثلا لو شفت اللجنة اللي شاركت في اعداد الكتاب أغلبهم موجهين وفيه ٣ مدرسين. واعتقد ان الموجه ما لمس المنهج مثل المدرس لانه ترك التدريس منم

فترة طويلة. لو تم استشارتنا على المنهج الجديد قلنا طلعا منهج العاشر للحادي عشر ونزلوا منهج الحادي عشر للعاشر. لأنه كم المعلومات كبير جدا على طالب العاشر.

• **ما هو تقييمك للتنفيذ العملي لاستراتيجية التعليم بخصوص تكنولوجيا اتصال المعلومات؟**

فيه مشاكل و ببطء و تخبط في تنفيذ الخطه ولكنها تتقدم وعلى سبيل المثال تشجيع التعلم الذاتي للمتعلمين فكنا نخصص حصص بس تعلم ذاتي، الطلبة نفسهم يشرحون الدروس، بتوجيه من الوزارة.

• **مآثرات والمشاريع المرتبطة باستراتيجية التعليم والتي نفذت منذ عام ٢٠٠٣؟**

حالياً تم تغيير كتاب الانجليزي. تم تطوير محتوى مادة الحاسوب اول كانت شغلات بسيطة طباعه وما طباعه والحين لا صارت برامج متطوره. تم تشغيل نظام رصد درجات الطلبة. تم الالزام باخذ الاي سي دي ال. صار فيه غرف ملتيميديا في المدارس. صار فيه تشجيع على استخدام التكنولوجيا. يعني صار فيه تحسن.

• **ما هو رأيك حول أهمية تطبيق تكنولوجيا الاتصال في المدارس؟**

اعتقد ان الكمبيوتر صار مهم جدا حاليا بعد التوسع الكبير في المعرفه والتكنولوجيا الي صارت موجوده حولينا في كل مكان ونحتاج نستخدمها عشان تسهل لنا عملية التعلم والتدريس ويوفر لي الوقت، لانه الشئ الي اقله في عشر حصص ممكن يختصر بفيديو على الشاشة يسهل لي كل هذا لانه فيجيوال يعني مرئي وملموس ومحسوس بالنسبه للطالب ويسهل له الماده العلمية.

• **كيف تستخدم حاليا تكنولوجيا المعلومات في تدريسك؟**

في كل قسم تقريبا في مدرستنا يوجد كمبيوتر للمدرسين والاداريين وأكثر الاعمال الورقية قاعده تتحول الى الكترونيه. بالنسبه لي أحاول استخدم اللابتوب والبروجكتور الشخصي وأحيانا استخدم وصلة النت عشان بعض الانشطة والتمارين اللغوية حسب توفر الوقت.

• **لماذا يستخدم او لا يستخدم المدرسون تكنولوجيا المعلومات في فصولهم؟**

بصراحه فيه اسباب كثيره تخلي المدرسين يستخدمون او ما يستخدمون تكنولوجيا المعلومات في فصولهم بعضها مرتبط بالمدرسين انفسهم و بعضها مرتبط بالمدرسة او الوزارة او اسباب اخرى. اذا المدرس يحب ويعرف للكمبيوتر راح يحاول يستخدمه واذا لا ممكن ما يستخدمه يعتمد على حماسه للكمبيوتر ومعرفته فيه. بس المشكله الاساسيه انه مافيه اجزه بالفصول ولا انترنت والكتاب القديم ما فيه انشطه

تعتمد على التكنولوجيا ومدرستنا قبل ما تطلب من المدرسين يستخدمون الكمبيوتر بس الحين بدأوا يطلبون بس المشكله مافيه اجهزه ولا انترنت في الصفوف.

• هل تعتقد ان جاهزية البيئة التعليمية الحالية في المدارس الثانوية تدعم الاستخدام الناجح لتكنولوجيا المعلومات؟

اقدر اقول ان البيئة الحالية واقصد السنتين الاخيرتين افضل بكثير من السابق، ولكن ما اقدر اقول ان البيئة الحالية تدعم استخدام ناجح لتكنولوجيا المعلومات. حاليا ادارة المدرسة والوزارة بدأت تشجع المدرسين انهم يستخدمون الكمبيوتر والزمتهم ياخذون الاي سي دي ال بس المشكله ان الكتاب لغاية بداية السنه الحالية ما كان فيه انشطه تحتاج كمبيوتر و الكمبيوترات والنت ما هي موجوده في الفصول. اكثر المدرسين الان يعرفون يستخدمون الكمبيوتر بس مو كل المدرسين بيون او يقدرن يستخدمون الكمبيوتر للتدريس. للحين يحتاجون تدريب واشياء كثيرة عشان يستخدمون التكنولوجيا بشكل جيد.

• كيف تشعر عند استخدام تكنولوجيا الاتصال؟

أنا أحب استخدام التكنولوجيا و أشعر بالسعادة لما استخدم الكمبيوتر لان طالباتي يستمتعون لما يكتشفون شلون ممكن يستفيدون من الكمبيوتر والانترنت في تعلم اللغة. بعدين توفر الوقت والجهد لانه يوجد كميات كبيرة من انشطة وتمارين تعلم اللغة موجوده اونلاين وسهل انك تنزلها وتستخدمها في الصف.

• ماالعوامل السياسية التي تدعم او تمنع استخدام تكنولوجيا المعلومات؟

خلال السبع أو ثمان سنوات الماضيه مر علينا حوالي ٦ وزراء وكانوا يغيرون كثيرا في ادارة الوزارة. كل وزير يفضل يجيب فريقه لوزاره عشان يضمن ان العمل يمضي حسب احتياجات رؤيته بغض النظر عن صحة أو خطأ آراءه. أيضا مرات كثيره وزير التربيه يكون من خلفية مختلفه و ما هو من الجسم او الحقل التعليمي.

• بعض المقابلات السابقه ذكرت أن عدم التوافق بين مجلس الامه والحكومه يعتبر من معوقات

خطط وزارة التربية، ما هو رأيك؟

نعم اعتقد ان هذا صحيح. الجميع يعلم ان هناك مصالح و خلافات سياسية تؤثر على اختيار الوزراء والمناصب الهامه في كل مكان في الحكومه.

• **مالعوامل الاجتماعية التي يمكن أن تمنع او تدعم استخدام التكنولوجيا؟**

ما أعتقد العوامل الاجتماعية يمكن أن تمنع استخدام التكنولوجيا ما عدا بعض العائلات الي ما تحب ان يكون عند اولادها مدخل مفتوح للانترنت. ولكنني اعتقد انه الان اكثر الشباب عندهم قدره جيدة في التكنولوجيا وهذا ممكن يدعم استخدام وتطبيق التكنولوجيا.

• **ماهي المتطلبات الرئيسية للاستخدام الأفضل لتكنولوجيا المعلومات في المدارس الثانوية من**

**وجهة نظرك؟**

الاستخدام الحقيقي للتكنولوجيا يحتاج تطوير شامل لعوامل كثيرة داخل وبرا المدرسة. اهمها، تجهيز الفصول بالكمبيوترات والنت والصيانة. طبعا التدريب مهم بس المدرسين الان راح يطورون انفسهم لانه الكتاب الجديد للغة الانجليزية يتطلب استخدام التكنولوجيا. ايضا لابد من مراجعة اجراءات تقييم المدرسين لمكافأة المدرسين الي يستخدمون التكنولوجيا. رغم اني استخدم التكنولوجيا من فترة طويلة، ولا مرة جتني ترفيه بالاختيار او تقدير. اذا تبي تترفي لازم تكون علاقتك مميزه مع المدير عشان تحصل امتياز. ادارتنا الحين بعد الكتاب الجديد بدوا يقدرن استخدام التكنولوجيا. لذلك لا بد من تطوير نظام تقييم المدرسين.

## Translation of an Interview

### Interview No. 6

**Interviewer:** Saad Alajmi

**Teacher Code:** TU. 3

**Interviewee:** English Language teacher at Aladan Secondary School for girls

**Qualifications:** BA English Language from College of Education, Kuwait University

- *How would you evaluate current readiness of schools for ICT in relation to infrastructure? (Internet access – Hardware – Software – Network -Technical support)*

In the past we have nothing except computers in the school administration, but recently we have a computer in each department and a printer. The computer has the main applications like Office, Explorer, oxford dictionary etc. This year we had an internet access in our department, but the problem that we have only one computer and we are 8 English teachers in the department. We do not have computers in classes but I use my own laptop, projector and my e. go (wireless internet kit) when I want to use ICT for my class. We have network in our school between departments and school administration and we use it only to register our monthly or termly results in the RSR. We have a technician for data show and normal instruments, we do not have real ICT therefore we do not have technical department at school, and when we have a problem in the computer of our department somebody come from the educational area to repair it, this usually takes some days. In general school infrastructure is very weak and not yet ready to support ICT but I am implementing ICT using my own resources.



- *What have been accomplished of preparing schools infrastructure for ICT implementation? New and old schools.*

I do not know about new schools but in our school not much is accomplished yet except preparing a "multimedia room" that has computer, projector and electronic board. But it is difficult to use it every time and school management prefer not to use it except for model classes or to make presentation for teachers or school guests.

- *What is your evaluation to the current competences of, teachers and mentors to use new technology in education?*

It depends on the teachers' efforts because ICDL is not enough by itself and teachers need to put more efforts, it has to be from the inside of the teacher to love to learn new teaching methods. The tale is not taking courses and qualifications by force; it is about having the inside desire to learn how to use those things. Those who took ICDL did not know how to use PowerPoint at the beginning of the work this year (the first year for the new textbook), but with practice and assistance of colleagues with ICT experience, they started improving as they have to use ICT now. They are now obliged to use computer, and the new textbook is encouraging autonomous learning and students have to make a presentation for an idea. The English language teacher is obliged to use the new book.

- *What have Ministry of Education have done in relation to preparing teachers for effective ICT implementation? (some teachers interviewed earlier stated that ICDL is not enough to prepare them for ICT implementation)*

There some ICT courses provided by MoE but joining those courses is optional and+ few teachers have the interest to develop their selves in computer; there is no compulsory courses except ICDL. It is true that ICDL is not enough and needs

practice or it will be forgotten. However, English language teacher, now, has to develop himself to be able to use the new textbook.

- ***What have Ministry of Education done in relation to preparing mentors to be able to guide teachers for effective ICT implementation?***

In relation to technology, I have no idea, but in relation to the subject they ask whether you use the CD (prepared by MoE), is it clear or not do use computer..etc.

They have been asked to have ICDL like teachers.

- Are students able to implement ICT?

Of course, most students even know about ICT more than teachers, not all of them but the majority.

- ***Is the curriculum designed to include ICT implementation?***

The old syllabus left no space or time for teachers to implement outside materials or activities and tied them to textbook, workbook and rarely tape recorders for some listening exercises. However, the new textbook implemented this year (2009/2010) for grade 10, includes some ICT activities that support collaborative learning and self-learning and at the end of each lesson some WWW links are provided to encourage students to use outside sources of information. The last textbook which lasted for 7 years was prepared to UAE, but this one (Over To You) is prepared for Kuwait.

### **Can I see the textbook?**

(The textbook is seen with the teacher)

- ***How does this affect ICT implementation?***

This textbook contains many ICT activities and will oblige teachers to use ICT and students will be asked, independently or collaboratively, to do some out of class tasks and will need to use PowerPoint to present what they have achieved to their peers.

- ***What plans did MOE is adopting in relation to developing curriculum?***

The ministry has many plans and project regarding education development and ICT but the problem is the continuous change in MoE policy. Every few years we have a new educational system (laughs). We do not stay on one system for at least 10 years to know it very well and evaluate it. But in relation to curriculum plans, we do not have any idea about MoE plans; they do not consult us in these important issues although they should.

- ***How teachers are currently implementing ICT?***

Few teachers using ICT in their teaching now and those who use it relay, mainly, on their personal resources, like laptops, data show and their personal Wi-Fi. And they mainly use some activities online, prepare the lessons and present then by PowerPoint using data show. But now after the new textbook all teachers must use ICT if classes are prepared with needed equipment.

- ***What ICT applications do they use?***

I use office, in general, but mainly Word, PowerPoint, hot potatoes, in addition to Explorer and Google. I also use and encourage my students to use many language learning websites for many language activities.

- ***What mainly obstructs the implementation of ICT in secondary schools in Kuwait from your point of view?***

Managers in the ministry use to say we want you to use ICT, computers and data show and we want, we want, we want ..... and what we find this year in classes is a cupboard and an electricity outlet only. According to the new teachers' guide, you should use computer and the data show, there is an obligation to the teacher, according to the teachers' guide and textbook, to use technology; (showing the first module in the textbook) for example, this is the beginning of the first module, it

says that teacher should show some pictures in front of students by computer and data show and play with them a game to remember the pictures. That means you oblige the teacher, according to the book, to use ICT but you did not provide any thing to him in class!!!!

Another obstacle is the routine, if you want to implement any new thing using ICT, you will need very long time to have the approval from the mentor who in turn need to have an approval from the head mentor. You will take very long time until you get the approval. But now with the new textbook we hope the situation will be better and using ICT will not need approval as ICT now is in the textbook.

- ***What do you suggest to overcome these obstacles?***

I had bought my own data projector and kept it in my department in order to avoid changing my lesson plan due to the lack of data projectors as we only have two or three data show but we have about 98 teachers and it will be difficult to have one.

- ***What policies and strategies have been adopted by MoE to implement ICT in secondary schools?***

The MoE use to put plans to develop education and in the past they try to develop the general secondary education by establishing the courses system, but after years they cancelled it and introduced the current unified system since four or five years. The problem with MoE strategies is that it does not last for long periods and not based on local researches.

- ***How would you describe the Strategic Plan of Education (SPE) 2005-2025?***

I think it is good and better than nothing but it seems to me that it is not executed in a good way. We hope that ministry let teachers participate in preparing for educational plans and strategies in future.

- ***Are teachers and schools principals participating in planning of (SPE) projects? How?***

Plans usually prepared in MoE and distributed to schools for implementation without making a study. However, some plans, sometimes, happen through work teams who use to make reports through schools and those reports are sent to Administration of Secondary Education which summarize all reports in one report and send it to MoE top management. Work groups formed by MoE, sometimes, consult teachers about some educational issues. For example, the marks of Grade 10 had a problem in marks distribution. It was 21 for written work and 9 for class work which is not logical from teachers' point of view and they think that marks should be 15 and 35 instead of 9 and 21. Teachers' point of view was somehow considered but not exactly as we expected.

But regarding this important strategy, they do not take our opinions. For example this current book, we are not in touch with the book committee. They took three teachers and the rest are mentors. I think the mentor has not feel the curriculum like the teacher as the mentor left teaching since long time. If we have been consulted in this textbook, we will advise to give textbook 11 to grade 10 as it is less tough than textbook 10 because the volume of information in book 10 is huge.

- ***What is your evaluation of the practical execution of SPE in relation to ICT?***

There are problems, slow and there is instability but it is progressing. For example, it encourages self-learning for learners and we assign periods just for self-learning. Students themselves explain lessons and this is instructed by MOE.

- ***What decisions/projects, related to SPE, have been executed since 2003?***

English language textbook has been changed recently. The syllabus of the IT subject has been developed. In the past it has simple things like printing and so on but now it has developed programs. The SRS is used and ICDL became compulsory, most of the schools have multimedia rooms. Now there is encouragement for using ICT, in general there is improvement.

- ***What are your views on the importance of ICT implementation in schools?***

I think that the computer has become very important at the present time after the huge expansion of knowledge and technology which now exists around us and which requires us to use them to make learning and teaching easier. What you need to say in 10 classes you can be shorten in a video on the screen because it is visual and can be seen, felt and it make the subject easier for the student.

- ***How are you currently implementing ICT in your teaching? T***

In our school almost every department has a computer for teachers and administrators and most of school paper work is being replaced with electronic versions. I try to use my personal lap top and projector in my teaching using PowerPoint and Word. Sometimes, according to the available time, I use my personal wireless internet to practice some English language activities.

- ***Why do you think teachers do or do not implement ICT in their classes?***

To be honest there are many reason that make teachers do or do not implement ICT in their classes. Some of these reason related to the teacher himself and some related to the school and MoE or other reasons. If the teacher like and know how to use ICT he will try to use it but if not he may not use it. It depends on his enthusiasm and ICT knowledge. But the major problem is the availability of computers and internet

in class and the ICT activities are not in the old English textbook. Our school in the past is not asking teachers to use ICT but now they start but the problem there is no computers or internet in classes.

- ***Do you think the current readiness of the educational environment in secondary schools supports successful ICT implementation?***

I can say that current educational environment, I mean the last two years, is much better than before, but I can't say that current environment will support successful ICT implementation. Now school management and the ministry started encouraging teachers to use computers and enforced teachers to have ICDL, but the problem the textbook, until this year, did not contain ICT activities and computers and internet are not available in classes. Most teachers know how to use computers but not many teachers want or can use computers for teaching. They still need training and many things to use technology successfully.

- ***How do you feel when implementing ICT? T***

I like using ICT in my teaching and I feel happy when using computer because my students enjoy exploring how they can benefit from computers and internet in their language learning. It also save time and efforts as huge amount of language learning activities are available online and easy to be downloaded and used in class.

- ***What political factors support/hinder ICT implementation?***

During the last 7 or 8 years we had about six ministers for MoE and they change a lot in MoE management. Every minister prefer to bring his team to the ministry to make sure that work is running according to his vision needs regardless of the rightness or wrongness of his opinion. In addition many times the minister of education comes from different background and not from the educational body and the field of education.

- *Some earlier interviews raised the socio-political inconsistency between government and National Assembly as hindering factor on plans of Ministry of Education, what is your opinion?*

Yes I think this is true. Everybody knows that interest and political conflict affect selecting of ministers and key positions everywhere in the government,

- *What social factors support/hinder ICT implementation?*

I don't think social factors may hinder ICT except some families who do not encourage that their kids have full access to internet. But I think now most of the young people have a good ability in ICT and this may support ICT implementation.

- *What are the major requirements for better ICT implementation in secondary schools from your point of view?*

The real ICT implementation will need a comprehensive development of many factors in school and outside school. The most important thing is in-classes computers, internet and technical support. Training of course is important but teachers will now learn themselves, as the new English textbook requires them to use ICT. Also changing teachers' assessment procedures need to be revised to reward teachers using ICT. Although I use ICT since a long time I have never exceptionally promoted or appreciated. If you want to be promoted you have to have special relationship with your principal to have an A in your assessment. Our management has recently interested in ICT, only after the 2009/2010 new curriculum of English language therefore teachers' assessment should be developed.



## Appendix 5:

### Summary of Interviews Analysis

**Main theme: 1      Readiness for ICT Implementation**

**Sub- theme 1-1      Infrastructure**

**How would you evaluate the readiness of schools for ICT in relation to infrastructure?**

Topic	Responses	Repetition
Hardware & software	• Computers are available for teachers in all departments	11
	• Main software packages (Office, SPSS, Photoshop.....) are available in all schools	12
	• At least one presentation room is available in each school	8
	• Schools have at least, one computer room for students (mainly used by IT teachers)	12
	• Limited educational software	6
	• software not updated regularly	7
	• No computers in classrooms	10
Networks	• New buildings prepared with network installations	3
	• Old buildings gradually prepared	4
	• Few schools have networks	4
	• Very limited usage of networks	7
	• Networks only connected with students affairs department to register students' grades	7
	• Schools networks are not yet connected with each other or with the MoE network	9
Connectivity	• No Internet access in classes	10
	• Limited internet access in educational departments	7
	• Drop of cost of wireless connectivity in 2008/2009 encouraged some teachers to use their personal laptops in schools	7
	• Some schools started using wireless Internet	3

Technical support	• Very limited technical support available in school	9
	• Technical support from the educational area takes a very long time	5
	• Sometimes teachers and students solve some technical problems themselves	4

### Sub-theme 1-2 Teachers' ICT Competence

#### Are teachers capable to implement ICT?

Topic	Responses	Repetition
Teachers' preparation	• Teachers are able to use ICT	13
	• Limited preparation for usage of ICT in teachers' colleges	8
	• Only two modules about general usage of computers and educational aids are taught in teacher training college.	8
Teachers' training	• All teachers have ICDL now	13
	• The compulsory ICDL certificate was not enough to qualify teachers but it helped to introduce teachers to the world of ICT	8
	• Some teachers have obtained ICDL certificates, although they are not qualified, through corruption	5
	• Very limited training is provided for ICT implementation	9
Teachers' self-reliance in ICT	• Teachers still need more ICT training	11
	• Many teachers have computers at home	12
	• Some teachers have independently qualified themselves in ICT educational implementation	6
	• Many Internet websites are useful for ICT teachers' preparation	4
	• After the introduction of the new curriculum (2009/2010), teachers have no choice but to qualify themselves in ICT	8

**Sub-theme 1-3      Students' ICT Ability**

**Are students able to implement ICT?**

<b>Topic</b>	<b>Responses</b>	<b>Repetition</b>
General ICT competencies	• Most of the students have computers at home	12
	• Many students have laptops	8
	• Since 2008/2009 many students have wireless Internet access at home	6
	• Many students have the new generation of smart phones	7
	• Some students have e-mail accounts	5
	• Some students are more experienced than teachers in computer and Internet usage	6
	• Some students are experts in multimedia programs	5
Educational ICT competencies	• Students' educational implementation of ICT is very limited	6
	• Some students have dictionaries with pronunciation features on their mobiles and computers	5
	• Some students use the Internet as source of information	2
	• Few students explore educational websites	2

**Sub-theme 1-4      Curriculum Inclusion of ICT**

**Is the curriculum designed to include ICT implementation?**

<b>Topic</b>	<b>Responses</b>	<b>Repetition</b>
Curriculum before 2009/2010	• Curriculum did not include ICT implementation	8
	• Teachers were not guided or encouraged to use ICT	9
	• Traditional syllabus plan leaves no time to implement ICT	8

Curriculum in 2009/2010	• Curriculum includes activities for ICT implementation	9
	• Mentors have started to encourage ICT implementation	9
	• Teachers are now forced to use ICT to accomplish some English lessons activities in the new textbook	8
	• Many ICT activities in the new English language textbook are incompatible with a lack of computers and Internet access	6

### Sub-theme 1-5 Current ICT Implementation

#### How do you currently implement ICT?

Topic	Responses	Repetition
Implementat ion	• Registration of students' results	10
	• Writing documents (exercises - exams - hand-outs)	10
	• Presentations	8
	• English language dictionaries	6
	• Exploring educational websites	4
	• Surfing website of the MoE as source of information	4
	• SMS parents about school activities and students' affairs	4
	• English language exercises	3
Applications	• Writing emails to colleagues and the MoE	3
	• All teachers use Word for exercises and exams	8
	• Some teachers use PowerPoint for presentation	9
	• Some English teachers use some educational software like Hot Potatoes.	2
	• Other software and websites like Flash, Access, Photoshop, Excel, Outlook, Explorer, and Google are use occasionally by some teachers	6

**Main theme: 2      Main Difficulties Facing ICT Implementation**

**What mainly obstructs the implementation of ICT in secondary schools in Kuwait?**

<b>Topic</b>	<b>Responses</b>	<b>Repetition</b>
School & MoE Policy	• Lack of clear plan regarding ICT Implementation	13
	• There is a need for stable policy for continuous development	13
	• Political corruption affect decision making and top management selection	9
	• Government slow procedures nature delay ICT projects	13
	• There is an urgent need for qualified stable management	5
	• Authority for schools principals need to be developed	7
	• Local and regional up to date ICT research either unavailable or unreachable	5
	• There is a need to increase awareness of the importance of ICT in education	8
	• Curriculum are not developed to contain authentic ICT activities	8
School infrastructure	• Lack of necessary computers and data projectors in classes	10
	• lack of educational software	7
	• lack of reliable and fast technical support	11
	• limited and slow Internet access in schools	9
	• Lack of internet access in classes	12
	• lack of access to educational journals	4
Teacher related issues	• Out of date teachers' preparation programs in colleges of teachers' preparation	9
	• Lack of in-school and out-school continuous training	12
	• Lack of awareness of ICT advantages	8
	• Resistance to change traditional methods of teaching	6
	• Lack of enthusiasm to implement ICT in teaching	8
	• Teachers do not have enough time to use ICT	11

Work environment	• Lack of encouragement of teachers using ICT effectively	4
	• Weakness of teachers' salaries and promotion plans	3
	• Workload and teacher responsibilities are not supporting ICT implementation	11
	• Employment of non-experienced teachers does not support ICT	7
	• Allowing commercial home teaching consume teachers ability to prepare ICT activities due to time limitations	8
	• Teachers' assessment is not considering teacher's use of ICT	7
Cost	• High cost of permanent fast connectivity	4
	• Cost of educational software is very high	5
	• Cost of educational journal subscriptions is not encouraging teachers to subscribe	7
Maturity time factor	• Technology will need time to become a part of people's lives	3
	• Teachers are still unable to follow the fast development of technology	6
	• We must let technology come to school by itself	2
	• Imposing policy may not accelerate ICT implementation in schools	3

**Main theme: 3 Policy and Strategies of Decision Making in the MoE in Relation to ICT**

**Sub-theme 3-1 ICT Polices and Strategies in the MoE**

**What policies and strategies have been adopted by the MoE to implement ICT in secondary schools?**

Topic	Responses	Repetition
General aims	• Government is keen to develop education	9
	• MoE sets plans to develop education	8
	• Government is aiming towards e-government	8
	• MoE declared that it will Implement ICT in education	8

Proceedings	• MoE stated using computers in schools since long time	4
	• National Education Development Conference 2002	6
	• MoE developed SRS system in all schools	11
	• Long Term Strategic Plan of Education 2005-2025, issued in 2003	8
	• ICDL certificate became compulsory for all students	10
	• Some training courses (in progress)	7
	• Preparing schools infrastructure for ICT implementation (in progress)	6
	• Developing curriculum to include ICT activities (in progress)	5
	• National Educational development Conference 2008	6
• Kuwait Development Plan, released by the end of 2009	7	

### Sub-theme 3-2 Description of Strategic Plan of Education

#### How would you describe the Strategic Plan of Education (SPE) 2005-2025?

Topic	Responses	Repetition
Scope	• SPE is a Comprehensive and Long term plan	9
	• SPE is a very broad and general plan	7
	• SPE is not practical and difficult to implement	5
	• SPE does not have a clear timeframe	8
	• SPE does not have detailed guidelines	8
Publicity	• It needs more promotion to public	8
	• It came from MoE management to schools without enough participation from teachers and research	11
	• Teachers are unaware of its details	8
	• We do not know about SPE	3
	• Parents have no information about SPE	2

Importance	• It is very important to have a strategic plan with obvious aims	14
	• It decreases political impact on education plans by new MoE ministers	13
	• SPE puts educational aims in an obvious framework	9
	• In the past the MoE had no medium or long term plans	11
	• At least the country has an educational plan now	8
	• Having SPE is better than having nothing	6

### Sub-theme 3-3 Evaluation of Execution of SPE

#### What is your evaluation of the practical execution of SPE in relation to ICT?

Topic	Responses	Repetition
Actions implemented	• Some basic ICT training courses are provided	8
	• ICDL certificate become compulsory for all teachers	13
	• Students' Registry System is implemented	14
	• MoE has increased number of PCs in schools	12
	• Internet access for schools' administration	12
	• Some school websites are established by school management of enthusiasm teachers	9
	• Technical support units in educational areas	3
	• Including some ICT activities in the new English language textbook	10
Actions in progress	• Developing the MoE website	7
	• Teachers' Registry System is prepared and will be implemented soon	3
	• Initiating more school websites and developing existing ones	6
	• Equipping all educational departments in schools with Internet access	8
	• Merging SPE with KDP, implemented in 2010	5



Action postponed	<ul style="list-style-type: none"> <li>• Connecting schools with the MoE and with each other</li> </ul>	9
	<ul style="list-style-type: none"> <li>• Many ICT infrastructure aspects like internet access in classes, electronic curriculum, technical support in each school etc.</li> </ul>	13
	<ul style="list-style-type: none"> <li>• Providing students in secondary schools with laptops</li> </ul>	13
	<ul style="list-style-type: none"> <li>• Teachers' professional ICT training courses</li> </ul>	9
	<ul style="list-style-type: none"> <li>• Many other ICT projects like electronic library, connecting schools etc.</li> </ul>	8

**Main Theme: 4 Teachers' Views Regarding ICT**

**Sub-theme 4-1 Importance of ICT**

**What are your views on the importance of ICT implementation in schools?**

Topic	Responses	Repetition
Important	<ul style="list-style-type: none"> <li>• ICT is a crucial need for educational development</li> </ul>	12
	<ul style="list-style-type: none"> <li>• ICT became a global need</li> </ul>	14
	<ul style="list-style-type: none"> <li>• ICT became an important part of our lives</li> </ul>	13
	<ul style="list-style-type: none"> <li>• ICT is very important</li> </ul>	14
	<ul style="list-style-type: none"> <li>• Schools should work hard to implementation ICT</li> </ul>	7
	<ul style="list-style-type: none"> <li>• ICT is helpful for learning and teaching</li> </ul>	11
	<ul style="list-style-type: none"> <li>• No development without ICT implementation Teachers have to include ICT in their teaching methods</li> </ul>	2
Not a priority	<ul style="list-style-type: none"> <li>• ICT is very important but other educational problems need solutions before ICT implementation</li> </ul>	7
	<ul style="list-style-type: none"> <li>• Curriculum needs development before using ICT</li> </ul>	6
	<ul style="list-style-type: none"> <li>• Teachers preparation needs development more than ICT</li> </ul>	5
	<ul style="list-style-type: none"> <li>• Development of teaching quality is more important than ICT</li> </ul>	6
	<ul style="list-style-type: none"> <li>• Reading and writing skills are below expectation according to international assessment and need development before ICT</li> </ul>	4
		6

Not important	• ICT does not worth the huge cost	2
	• Developed countries have not yet spread ICT implementation in all schools	3
	• ICT will not replace traditional methods	5

#### Sub-theme 4-2      Reasons for Using/Not Using ICT

**Why do you think teachers do or do not implement ICT in their classes?**

Topic	Responses	Repetition
Global demand	• The need for ICT is a universal need	6
	• No development in future without technology	9
	• Bridging the technological gap and connecting us to the world	9
	• To be part of the universal village	8
Pedagogical need	• ICT could develop teaching methods	10
	• Provides an authentic learning environment	8
	• Develops language learning skills (listening speaking reading and writing)	8
	• Offers real learning situations	6
	• Rich resource of pedagogical information	8
	• ICT will not replace traditional methods	4
Requirements of employment	• Some teachers use ICT to help him to have a job	7
	• Some teachers is looking to be distinctive in order to be promoted	7
	• To compete with colleagues and to be distinctive in teaching	6
	• The MoE asks them to implement ICT	7
	• School encourages ICT implementation	9
others	• ICT is interesting	5
	• My students enjoy the ICT activities (Teachers who do not implement ICT)	3
	• Time consuming	4
	• Need a lot of effort	2
	• Does not help to prepare students for exams	2
	• Not included in teachers' performance evaluation	5
	• Not required in textbooks and teachers guides	2

**Sub-theme 4-3 Views about Current ICT Readiness**

**Do you think the current readiness of the educational environment in secondary schools supports successful ICT implementation?**

<b>Topic</b>	<b>Responses</b>	<b>Repetition</b>
Supporting	• Strong intention of government and the MoE to implement ICT in education	13
	• Financial feasibility	8
	• Compulsory ICDL in 2007/2008	11
	• The 2009/2010 new English language curriculum	4
	• Rise in number of computers in schools	7
Promising	• Development of curriculum	7
	• Promises to increase number of computers and projectors	8
	• Wireless connectivity	11
	• Decreasing cost of Internet connectivity since 2008	8
	• Rise in ICT usage in community	13
Hindering	• Lack of clear and stable plans	12
	• Need for qualified management	9
	• Need for stable policy	13
	• Lack of creditable evaluation and assessment	7
	• Lack of local and regional up-to-date ICT research	6
	• Need for increasing awareness of the importance of ICT in education	4
	• Need for continuous training	11
	• Weakness of technical support	7
	• Limited and slow Internet access	10
	• Lack of educational software	5

**Sub-theme 4-4      Feelings Towards ICT Implementation**

**How do you feel when implementing ICT?**

<b>Topic</b>	<b>Responses</b>	<b>Repetition</b>
Positive	• Like its usefulness and authenticity	4
	• Feel proud using it before other teachers	1
	• Happy that students enjoy using ICT	4
	• Confident it widens students' sources of information and supports students' learning autonomy	3
Negative	• Don't like complications of new technology	5
	• ICT needs extra time while teachers' timetables are already overloaded	8
	• Disappointed about availability of technical support	4

**Main Theme: 5      Socio-political Issues Related to ICT Implementation**

**Sub-theme 5-1      Political Supporting/Hindering Factors for ICT**

**What political factors support/hinder ICT implementation?**

<b>Topic</b>	<b>Responses</b>	<b>Repetition</b>
Supporting	• Global, regional and national trend of implementing ICT in education	12
	• Government and public support for education in general	11
	• E-government projects over the last 20 years	7
	• Government's intention to develop education	10
	• The mutual agreement between the government and National Assembly to support education	12
	• Availability of financial support	9

<b>Sub-theme 5-2</b>  <b>Social</b>  <b>Supporting/Hin</b> <b>dering Factors</b>  <b>for ICT</b>  <b>What social</b> <b>factors</b>  <b>support/hinder</b>	Hindering	<ul style="list-style-type: none"> <li>• <b>Local</b></li> <li>• Lack of clear political vision since Kuwait liberation in 1991</li> <li>• Lack of clear and timed government programmes</li> <li>• Instability of Kuwaiti Cabinet</li> <li>• Historical disagreement between Government &amp; National Assembly</li> <li>• <b>Regional</b></li> <li>• Instability of political environment in the Arabian Gulf and Middle East</li> <li>• Current Iranian intention to play a major role in the area and resistance of many Arabian and Western governments</li> </ul>	10
		10	
		13	
		11	
		5	
3			

### ICT implementation?

Topic	Responses	Repetition
Supporting	• Openness & dynamics of Kuwaiti society	8
	• Exploratory nature of the Kuwaiti society	7
	• Private sector interacting with society	4
	• Many people own the latest communication technologies	9
Hindering	• Some parents resist the Internet	3
	• Lack of awareness of the potential of ICT in education in some areas in Kuwait	8
	• Religious restrictions	4
	• Financial ability of some families	3

**Main Theme: 6 Requirements for Better ICT Implementation**

**What are the major requirements for better ICT implementation in secondary schools?**

<b>Topic</b>	<b>Responses</b>	<b>Repetition</b>
Requirements related to the government & MoE	<ul style="list-style-type: none"> <li>• Stable and clear general educational policy</li> <li>• Stable qualified educational management</li> <li>• Streamlining educational spending</li> <li>• Revision of teachers' preparation, training and evaluation programmes</li> <li>• Control quality of employment and promotion policy</li> <li>• Develop curriculum</li> <li>• Develop schools' ICT infrastructure (equipment, Internet access, technical support)</li> <li>• Encourage local educational research</li> <li>• Continuous community ICT development</li> <li>• Avoidance of hasty top down imposition of ICT in education</li> </ul>	<p>13</p> <p>8</p> <p>4</p> <p>11</p> <p>8</p> <p>9</p> <p>14</p> <p>5</p> <p>4</p> <p>8</p>
Requirements related to schools	<ul style="list-style-type: none"> <li>• Have a space of independence to make decisions</li> <li>• Encourage teachers to implement ICT</li> <li>• Initiate active and useful school website</li> <li>• Initiate and encourage a comprehensive school ICT environment</li> <li>• Encourage continuous ICT activities in school</li> <li>• Maintain continuous (in school) training and technical support</li> <li>• Activate ICT as communication means to contact parents and the MoE</li> </ul>	<p>7</p> <p>10</p> <p>4</p> <p>6</p> <p>8</p> <p>12</p> <p>6</p>
Requirements related to teachers	<ul style="list-style-type: none"> <li>• Learn about ICT implementation</li> <li>• Start implementing ICT</li> <li>• Continuous development of ICT competence</li> <li>• Keep up to date</li> <li>• Encourage colleagues and students to implement ICT in and out of school</li> </ul>	<p>6</p> <p>9</p> <p>7</p> <p>7</p> <p>4</p>

## Appendix 6

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2020

STUDENT HIGHER-LEVEL RESEARCH



School of Education and Lifelong Learning

### Certificate of ethical research approval

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#### STUDENT RESEARCH/FIELDWORK/CASEWORK AND DISSERTATION/THESIS

You will need to complete this certificate when you undertake a piece of higher-level research (e.g. Masters, PhD, EdD level).

To activate this certificate you need to first sign it yourself, then have it signed by your supervisor and by the Chair of the School's Ethics Committee.

For further information on ethical educational research access the guidelines on the BERA web site: <http://www.bera.ac.uk/publications/guides.php> and view the School's statement in your handbooks.

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**READ THIS FORM CAREFULLY AND THEN COMPLETE IT ON YOUR COMPUTER** (the form will expand to contain the text you enter).  
**DO NOT COMPLETE BY HAND**

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Your name: Saad Sh. S. Al Ajmi

Degree/Programme of Study: PhD

Project Supervisor(s): Patrick Dillon & Malcolm MacDonald

Your email address: [sa252@exeter.ac.uk](mailto:sa252@exeter.ac.uk)

Tel: 00447783000829

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**Title of your project:**

(Conditions and Implementations of using Information and  
Communication Technology (ICT) in English language classes in  
governmental secondary schools in Kuwait).

**Brief description of your research project:**

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Chair of the School's Ethics Committee  
October 2005

This research will be mainly directed to teachers of English language, students and educators in secondary governmental and private schools in Kuwait. Besides, it will search the curriculum design of English language and any social, political or financial related issues that could play a role in using ICT in English language classes in governmental secondary schools in Kuwait.

---

**Give details of the participants in this research (giving ages of any children and/or young people involved):**

English language Teachers in secondary governmental and private schools in Kuwait,  
Educators in Ministry of Education in Kuwait,  
Educators in Kuwait University,  
and students in secondary governmental and private schools in Kuwait at the age of 16-18 years old.

**Give details regarding the ethical issues of informed consent, anonymity and confidentiality (with special reference to any children or those with special needs)** a blank consent form can be downloaded from the SELL student access on-line documents:

Ethical issues of informed consent, anonymity and confidentiality of participants will be maintained during all stages of this research.  
Consent form will be used for all participants or people liable to participants. No children or special need participants in this study.

**Give details of the methods to be used for data collection and analysis and how you would ensure they do not cause any harm, detriment or unreasonable stress:**

- Questionnaire.
- Semi-structure interview.
- Documentary research.

Participation in these data collection methods will be voluntary and participant will have the right to withdraw at any time. No names or signs of identity will be asked and confidentiality will be maintained. Harm, detriment stress will be avoided during designing of methods of this research.

**Give details of any other ethical issues which may arise from this project (e.g. secure storage of videos/recorded interviews/photos/completed questionnaires or special arrangements made for participants with special needs etc.):**

Material of this research like recorded interviews and completed questionnaire will be kept in a safe place during all the stages of this study and after completion of study.



Give details of any exceptional factors, which may raise ethical issues (e.g. potential political or ideological conflicts which may pose danger or harm to participants):  
Not applicable in this study.

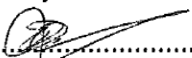
---

*This form should now be printed out, signed by you below and sent to your supervisor to sign. Your supervisor will forward this document to the School's Research Support Office for the Chair of the School's Ethics Committee to countersign. A unique approval reference will be added and this certificate will be returned to you to be included at the back of your dissertation/thesis.*

---

I hereby certify that I will abide by the details given above and that I undertake in my dissertation / thesis (delete whichever is inappropriate) to respect the dignity and privacy of those participating in this research.

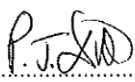
I confirm that if my research should change radically, I will complete a further form.

Signed:  ..... date: 29.01.07

*N.B. You should not start the fieldwork part of the project until you have the signature of your supervisor*

---

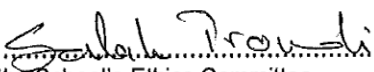
This project has been approved for the period: ..... until: End 2008

By (above mentioned supervisor's signature):  ..... date: 29.01.07

*N.B. To Supervisor: Please ensure that ethical issues are addressed annually in your report and if any changes in the research occurs a further form is completed.*

---

SELL unique approval reference: ..... D / 06 / 07 / 15

Signed:  ..... date: 23/02/2007  
Chair of the School's Ethics Committee

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This form is available from  
<http://www.education.ex.ac.uk/students/index.php> then click on On-line documents.

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Chair of the School's Ethics Committee  
October 2005

## **Research Tools for the Pilot Study**

### **Appendix (7)**

#### **Questionnaire for Students**

**(An Arabic version of this questionnaire is available if needed)**

Dear Participant,

Thank you very much for taking part in this study and giving us your valuable time. This research is looking at current use of the ICT by teachers and students and how it could support ICT implementation for English Language teaching in secondary schools in Kuwait.

The title of this study is:

**Factors Influencing Information and Communication Technology (ICT) Implementation in Government Secondary Schools in Kuwait**

The information collected in this study will be kept strictly confidential and will be used only for this research without any individual identification of the participants.

Your participation in this study is voluntary and you are free to withdraw at any time, without giving reason.

Best regards

Saad Alajmi

PhD Student,

University of Exeter.

## Student's Questionnaire

**Please answer the following questions:**

### **A- Personal Information:**

**1. Gender.**

A) Male .

B) Female .

**1. Age.**

A) 15-16 . B) 17 – 18 . C) More than 18 .

**2. Name of school.**

I study in \_\_\_\_\_.

### **B- Personal use of ICT:**

**3. 'I use the Internet most for:**

	<b>Frequently</b>	<b>sometimes</b>	<b>rarely</b>	<b>never</b>
<b>Entertainment.</b> (e.g. games, music, films)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>E-mail.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Chatting.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Source of information.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Others</b> (please explain below)				

\_\_\_\_\_

**4. How often do use the Internet during the week?**

A) 0-1 time . B) 2-4 times . C) 5-7 times . D) more than 7 times .

**5. How long do you use the Internet each time?**

A) 0-1 hour . B) 2-4 hours . C) 5-7 hours . D) more than 7 hours .

**6. What kind of materials do you use?**

A) Text . B) Audio . C) Video . D) all the previous .

**C- Educational use of ICT:**

**7. Do you use ICT in your English language learning?**

A) Yes . B) No . If yes specify:

---

**8. How often do you use English language when you use the ICT?**

A) never . B) rarely . C) sometimes . D) usually . E) always .

**9. How often do you read English articles on the Internet?**

A) never . B) rarely . C) sometimes . D) usually . E) always .

**10. How often do you write e-mails to your classmates in relation to your study issues?**

A) never . B) rarely . C) sometimes . D) usually . E) always .

**11. How often do you write e-mails to your tutors in relation to your study issues?**

A) never . B) rarely . C) sometimes . D) usually . E) always .

**12. 'I found the ICT most helpful for':**

	<b>Frequently</b>	<b>sometimes</b>	<b>rarely</b>	<b>never</b>
<b>Listening.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Speaking.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Reading.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Writing.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Grammar.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**13. Do you use ICT to interact with your school (e.g. Results of Exams, Homework submission, administration..) Specify if any?**

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**14. Do you use the ICT to interact with the English language department in your school? Specify if any?**

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**D- Difficulties and solutions:**

**15. What difficulties do you face when you want to use ICT? (e.g. access, speed, cost)**

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**16. What do you suggest to overcome those difficulties?**

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## Appendix (8)

### Analysis of students' questionnaire

1) Whole Analysis from Students Questionnaire:

<b>Q2 (age)</b>	15-16 45	17-18 5	More than 18 0		
<b>Q3 (school)</b>	Government 25	Private 25			
<b>Q4.1 (use ICT for entertainment)</b>	Frequently 15	Sometimes 23	Rarely 7	Never 5	
<b>Q4.2 (use ICT for e-mail)</b>	Frequently 24	Sometimes 11	Rarely 7	Never 8	
<b>Q4.3 (use ICT for chatting)</b>	Frequently 11	Sometimes 16	Rarely 10	Never 13	
<b>Q4.4 (use ICT as source of info.)</b>	Frequently 23	Sometimes 12	Rarely 11	Never 4	
<b>Q4.5 (use ICT for other reasons)</b>	Frequently -	Sometimes -	Rarely -	Never -	
<b>Q5 (how often use Internet per/week)</b>	0-1 times 13	2-4 times 19	5-7 times 9	7 times-more 9	
<b>Q6 (how long each time)</b>	0-1 hour 14	2-4 hours 31	5-7 hours 5	7 times-more 0	
<b>Q7 (what materials you use)</b>	Text 16	Audio 2	Video 1	All previous 31	
<b>Q8 (use ICT for ELL)</b>	Yes 23	No 27			

<b>Q9 (how often use EL when use ICT)</b>	Never 6	Rarely 5	Sometimes 14	Usually 15	Always 11
<b>Q10 (read English articles)</b>	Never 16	Rarely 4	Sometimes 13	Usually 13	Always 4
<b>Q11 (write e-mails for classmate)</b>	Never 20	Rarely 10	Sometimes 15	Usually 5	Always 0
<b>Q12 (write-mails for teacher)</b>	Never 24	Rarely 9	Sometimes 13	Usually 4	Always 0
<b>Q13.1 (found ICT helpful for listening)</b>	Frequently 16	Sometimes 18	Rarely 14	Never 2	
<b>Q13.2 (found ICT helpful for speaking)</b>	Frequently 12	Sometimes 18	Rarely 11	Never 9	
<b>Q13.3 (found ICT helpful for reading)</b>	Frequently 30	Sometimes 16	Rarely 3	Never 1	
<b>Q13.4 (found ICT helpful for writing)</b>	Frequently 23	Sometimes 15	Rarely 8	Never 4	
<b>Q13.5 (found ICT helpful for grammar)</b>	Frequently 6	Sometimes 17	Rarely 16	Never 11	
<b>Q14 (interact with school)</b>	Exams Results 16	Homework 5	Others 1	Non 28	
<b>Q15 (interact with department)</b>	Yes 3	No 45	Rarely 2		
<b>Q16 (difficulties of using ICT)</b>	Access+ speed 33	Cost 6	Language 7	Others 4	
<b>Q17 (Solutions for using ICT)</b>	Training 15	Tech. development 24	Others 11		

2) Comparison of the Findings of Government and Private Sector Schools:

	Private	Gov.	Private	Gov.	Private	Gov.	Private	Gov.	Private	Gov.
<b>Q2 (age)</b>	15-16 23	15-16 22	17-18 2	17-18 3	More than 18 0	More than 18 0				
<b>Q4.1 (use ICT for entertainment)</b>	Frequently 11	Frequently 4	Sometimes 10	Sometimes 13	Rarely 4	Rarely 3	Never 0	Never 5		
<b>Q4.2 (use ICT or e-mail)</b>	Frequently 20	Frequently 4	Sometimes 4	Sometimes 7	Rarely 0	Rarely 7	Never 1	Never 7		
<b>Q4.3 (use ICT for chatting)</b>	Frequently 10	Frequently 1	Sometimes 6	Sometimes 10	Rarely 8	Rarely 2	Never 1	Never 12		
<b>Q4.4 (use ICT as source of info.)</b>	Frequently 13	Frequently 10	Sometimes 8	Sometimes 4	Rarely 4	Rarely 7	Never 0	Never 4		
<b>Q4.5 (use ICT for other reasons)</b>	Frequently -	Frequently -	Sometimes -	Sometimes -	Rarely -	Rarely -	Never -	Never -		
<b>Q5 (how often Use Internet per/week)</b>	0-1 times 3	0-1 times 10	2-4 times 8	2-4 times 11	5-7 times 5	5-7 times 4	7 times-more 9	7 times-more 0		
<b>Q6 (how long each time)</b>	0-1 hour 9	0-1 hour 5	2-4 hours 14	2-4 hours 17	5-7 hours 2	5-7 hours 3	7 times-more 0	7 times-more 0		
<b>Q7 (what Materials you use)</b>	Text 7	Text 9	Audio 0	Audio 2	Video 1	Video 0	All previous 17	All previous 14		
<b>Q8 (use ICT)</b>	Yes	Yes	No	No						



<b>for ELL)</b>	19	4	6	21					
<b>Q9 (how often use EL when use ICT)</b>	Never 0	Never 6	Rarely 1	Rarely 4	Sometimes 6	Sometimes 8	Usually 11	Usually 4	Always 7
<b>Q10 (read English articles)</b>	Never 2	Never 14	Rarely 2	Rarely 2	Sometimes 7	Sometimes 6	Usually 11	Usually 2	Always 3
<b>Q11 (write e-mails for classmate)</b>	Never 9	Never 11	Rarely 5	Rarely 5	Sometimes 6	Sometimes 9	Usually 5	Usually 0	Always 0
<b>Q12 (write-mails for teacher)</b>	Never 10	Never 14	Rarely 6	Rarely 3	Sometimes 5	Sometimes 8	Usually 4	Usually 0	Always 0
<b>Q13.1 (found ICT helpful for listening)</b>	Frequently 8	Frequently 8	Sometimes 8	Sometimes 10	Rarely 9	Rarely 5	Never 0	Never 2	
<b>Q13.2 (found ICT helpful for speaking)</b>	Frequently 8	Frequently 4	Sometimes 4	Sometimes 14	Rarely 9	Rarely 2	Never 4	Never 5	
<b>Q13.3 (found ICT most helpful for reading)</b>	Frequently 21	Frequently 9	Sometimes 2	Sometimes 14	Rarely 2	Rarely 1	Never 0	Never 1	
<b>Q13.4 (found ICT helpful for writing)</b>	Frequently 13	Frequently 10	Sometimes 9	Sometimes 6	Rarely 2	Rarely 6	Never 1	Never 3	
<b>Q13.5 (found ICT helpful for grammar)</b>	Frequently 4	Frequently 2	Sometimes 8	Sometimes 9	Rarely 10	Rarely 6	Never 3	Never 8	
<b>Q14 (interact with school)</b>	Exams Results 16	Exams Results 0	Home Work 5	Home Work 0	Others 1	Others 0	Non 3	Non 25	
<b>Q15 (interact with department)</b>	Yes 3	Yes 0	No 20	No 25	Rarely 2	Rarely 0			
<b>Q16 (difficulties of using)</b>	Access+ speed 3	Access+ speed 3	Cost 3	Cost 3	Language 3	Langu age 2	Others 2	Others 2	

<b>ICT)</b>	17	16				4			
<b>Q17 (Solutions for using ICT)</b>	Training 7	Training 8	Tech. develop ment 13	Tech. develop ment 11	Others 5	Others 6			

## Appendix (9)

### Students' Semi-Structured Interview

(An Arabic version of this interview is available if needed)

Dear Student,

Thank you very much for accepting the invitation to participate in this research study and to give a lot of your valuable time. I realize that it is important for you to understand why the research is being done and what it will involve. To have a clear idea about this research, please read the following:

**1. Title of this study:**

**Factors Influencing Information and Communication Technology (ICT) Implementation in Government Secondary Schools in Kuwait**

**2. The purpose of the study:**

The purpose of this research is to explore **factors influencing ICT implementation in English language classes in secondary schools in Kuwait**. The technique of the study is using questionnaires and interviews as tools of data gathering. This part of the study will be exploring students' and teachers' personal and educational use of ICT.

**3. Why have you been chosen:**

You have been chosen to participate in this research because of your position as an English language student in a secondary school. The information collected in this study will be kept strictly confidential and will be used only for this research without any individual identification of the participants.

**4. Who has approved the study:**

The University Research Ethics Committee at University of Exeter has approved this research.

**5. How will you take part:**

You will take part in this stage of the research through an interview for about 45 minutes. The interview will focus on your personal and educational use of ICT and your experience or expectations of using ICT in English language classes in government secondary schools in Kuwait.

Saad Al Ajmi

PhD student,

University of Exeter

## Students' Semi-Structured Interview

### A- Personal Information:

1. Name of school.

\_\_\_\_\_.

2. How long have you been in this school?

\_\_\_\_\_.

### B- Personal use of ICT:

(Initially we will ask few questions about your personal use of ICT)

3. What do use ICT most for?

\_\_\_\_\_

4. How often do use the Internet during the week?

\_\_\_\_\_

5. How long do you use the Internet each time?

\_\_\_\_\_

### C- Educational use of ICT:

(Ok, the next set of questions will be asking about your educational use of ICT).

6. Do you use English language when you use the Internet (ICT)? How often? /Why not?

\_\_\_\_\_

7. Do you interact with your school or English language department through ICT? How often? /Why not?

\_\_\_\_\_

8. Do you use ICT in your English language learning? How? /Why not?

\_\_\_\_\_

**9. Does your school or English language department provide any ICT training?  
How if any?**

---

**10. What encourages/discourages you to use ICT for your English language learning?**

---

**11. What kind of support do you get/need to use ICT for your English language learning?**

---

**12. Do you write e-mails SMSs to your teachers in relation to your studies? How often? /Why not?**

---

**13. Do you write e-mails - SMSs to your peers in relation to your studies? How often? /Why not?**

---

**14. Do you use ICT for any other activities in your school? What are they if any?**

---

**D- Difficulties and solutions:**

(Finally we will talk about the difficulties that may face using ICT for teaching and learning English language and the suggested solutions)

**15. What limitations do you face in using ICT for your EL learning? (access, speed, cost)**

---

**16. What do you suggest to overcome these limitations?**

---

## Appendix (10)

### Teachers' Semi-Structured Interview for Pilot Study

Dear Participant,

Thank you very much for accepting the invitation to participate in this research study and to give a lot of your valuable time. I realize that it is important for you to understand why the research is being done and what it will involve. To have a clear idea about this research, please read the following:

**1. Title of this study:**

**Factors Influencing Information and Communication Technology (ICT) Implementation in Government Secondary Schools in Kuwait**

**2. The purpose of the study:**

The purpose of this research is to explore **factors influencing ICT implementation in English language classes in secondary schools in Kuwait**. The technique of the study is using questionnaires and interviews as tools of data gathering. This part of the study will be exploring students' and teachers' personal and educational use of ICT.

**3. Why have you been chosen:**

You have been chosen to participate in this research because of your position as an English language teacher in a secondary school. The information collected in this study will be kept strictly confidential and will be used only for this research without any individual identification of the participants.

**4. Who has approved the study:**

The University Research Ethics Committee at University of Exeter has approved this research.

**5. How will you take part:**

You will take part in this stage of the research through an interview for about 45 minutes. The interview will focus on your personal and educational use of ICT and your experience or expectations of using ICT in English language classes in government secondary schools in Kuwait.

Saad Al Ajmi

PhD student, University of Exeter

## Teacher's Semi-Structured Interview

### A- Personal Information:

1. Gender.

\_\_\_\_\_.

2. English language teaching experience.

\_\_\_\_\_.

3. Name of school.

\_\_\_\_\_.

### B- Personal use of ICT:

(Initially we will ask few questions about your personal use of ICT)

4. What do you use the Internet (ICT) most for?

\_\_\_\_\_.

5. How often do you use the Internet during the week?

\_\_\_\_\_.

6. How long do you use the Internet each time?

\_\_\_\_\_.

### C- Educational use of ICT:

(The next set of questions will be asking about your educational use of ICT).

7. Do you use English language when you use the Internet? How often?  
/Why not?

\_\_\_\_\_.

8. Do you use ICT in your English language teaching? How? If not,  
Why not?

\_\_\_\_\_.

9. Do you read English language teaching articles in electronic  
journals? Give examples? If not, Why not?

---

**10. Do you write e-mails to your students in relation to their study? How often? /Why not?**

---

**11. What kind of e-mails do you write to them if any?**

---

**12. Do you write e-mails to your colleagues in relation to teaching issues? What type? /Why not?**

---

**13. What kind of support do you get/need to use ICT for your English language teaching?**

---

**14. Do you use ICT for any other activities in your school? What are they if any?**

---

**D- Difficulties and solutions:**

(Finally we will talk about the difficulties that may face using ICT for teaching and learning English language and the suggested solutions)

**15. What limitations do you face in using ICT for your English language classes? (access, speed, cost)**

---

**16. What do you suggest to overcome these limitations?**

---



## **Appendix (11)**

### **Pilot Study**

**Introduction:**

The data collection process of this research was mainly based on “*what do I need to know and why*” (Bell, 1996, p. 63) and how I could collect that information with limited time and resources. The pilot study is a fact-finding study about the state of current ICT implementation, aiming to explore and confirm my individual experience with the existing situation of ICT implementation and to have an overall view of the area of research. This exploratory study helps in finding the most important areas needing more in-depth investigation in the main study of the research, which aims to reach a better understanding of barriers to ICT implementation in secondary schools in Kuwait. In pilot study, the research tries to answer some sub-questions through a questionnaire directed at a small sample of secondary school students and through semi-structured interviews with some students and teachers of English Language in a selection of government and private secondary schools in Kuwait. Although investigating ICT implementation in private secondary schools is not an interest area of this research, the researcher preferred to include students from those schools in the questionnaire. The reason for this inclusion was to have an idea if the independent policy and the freedom in management and decision making that private sector schools have affect ICT implementation. In addition, documentary research takes place in both phases of the study to answer some sub-questions and to give a better understanding of different issues related to ICT implementation. The document research was a helpful instrument that provided important information for investigation in depth through the questionnaires and interviews implemented in the main study.

### **1.1 Aim of Pilot Study:**

The pilot study aims to explore the area of research through a fact finding exploration of current readiness for ICT implementation in government secondary schools in Kuwait. In this exploration, important areas of research such as ICT policies, schools readiness, students and teachers ICT competences and current difficulties facing ICT implementation were explored.

### **1.2 Objectives of Pilot study**

- To explore actions taken by MoE regarding preparation for ICT implementation according to SPE released in 2003.
- To investigate current readiness of students, teachers, curriculum and schools infrastructure for ICT implementation.
- To evaluate any existing ICT implementation in government secondary schools.
- To explore current difficulties regarding ICT implementation in government secondary schools.

### **1.3 Research Sub-questions of Pilot Study:**

Pilot study tried to explore the readiness of students, teachers and school infrastructure for ICT implementation. It also aimed to explore practical actions taken by the MoE regarding preparation of the educational environment for ICT. It endeavoured to find out to what extent teachers' and students' current use of ICT and the current infrastructure could support ICT implementation. This part also attempted to investigate current difficulties that teachers and students faced during their personal or educational use of ICT. In order to proceed in this study, the

researcher tried to answer some crucial sub-questions related to this part using a questionnaire. These questions could be summarised as follows:

- What policies and strategies adopted by the Ministry of Education towards using ICT in government secondary schools?
- What ministerial decisions and actions that have been taken and executed in relation to ICT implementation in terms of infrastructure, teachers and the curriculum in government secondary schools?
- What are the current ICT competencies of students and teachers?
- What teachers training programmes are implemented in Teacher Training Colleges in Kuwait?
- To what extent does current curriculum and ICT infrastructure available in schools support ICT implementation?
- If there is any current ICT usage, what sort of ICT is implemented by teachers?
- What are the current major difficulties obstructing teachers from implementing ICT?

### **3.1 Methodology of Pilot study**

Many ideas have been presented and organised from the literature review and have contributed to forming the theoretical framework of this study. This pilot study generally explores the area using a quantitative method, where the epistemological view of this part of the research is fact-finding and looking for meanings in the independent object of study (objectivism). Contextualising the situation in the light of what has been researched by previous different studies has helped to identify the gaps in the literature and the rationale of the current study. The literature review helped to identify gaps to be covered and the specific framework and methodology to be implemented in this research. In addition, it unveils the huge gap in educational research in general and specifically educational research in ICT implementation in the Kuwaiti environment (Al Bustan, 2005; Al Rasheedi, 2010). Al Rasheedi (2010) pointed out that the lack of educational research affected planning processes in the MoE and caused repeated educational problems in the Kuwaiti educational environment, and leading to undesirable outcomes in spite of the huge governmental spending on education. Therefore, the contextual framework of this study is mainly based on Western and Arabian studies, with a small amount of Kuwaiti research related to ICT implementation, due to the lack of Kuwaiti-based literature.

After the review of literature, main areas of research were portrayed and the guidelines of the needed investigation and methodology were determined. The researcher decided to review and search some important related documents to find out many important issues related to ICT policies and implementation. Additionally, a questionnaire was used among 50 secondary school students to answer most of the questions derived from the objectives of this part of the research. Finally interviews

with 2 students and 4 English language teachers from government secondary schools took place for more exploration and to find facts about current ICT implementation.

The data collection process of this research was mainly based on “*what do I need to know and why*” (Bell, 1996, p. 63) and how I could collect that information with limited time and resources. This phase of the study is a fact-finding phase about the state of current ICT implementation, aiming to explore and confirm my individual experience with the existing situation of ICT implementation and to have an overall view of the area of research. This exploratory part helps in finding the most important areas needing more in-depth investigation in the second phase of the research, which aims to reach a better understanding of barriers to ICT implementation in secondary schools in Kuwait. In this phase of the study, the research tries to answer some sub-questions through a questionnaire directed at a small sample of secondary school students and through semi-structured interviews with some students and teachers of English Language in a selection of government and private secondary schools in Kuwait. In addition, documentary research takes place in both phases of the study to answer some sub-questions and to give a better understanding of different issues related to ICT implementation. The document research was a helpful instrument that provided important information for investigation in depth through the questionnaires and interviews implemented in the second phase of the study.

A method triangulation of documentary research, questionnaires and interviews were carried out to collect data from a triangulation of participants including students, teachers and educators. The first data-collecting technique in this piloting part of this research is a questionnaire, which is used to explore closely the current

situation with ICT implementation and to establish the readiness of students to use ICT. This questionnaire is used to explore the research area and to gain a better understanding of the situation. It is implemented to collect data from students at government and private secondary schools to find out how their current personal and educational use of ICT could support the MoE plans for ICT implementation. This exploration part of the research is also supported with a few semi-structured interviews with some students and teachers to obtain more in-depth information about current personal and educational use of ICT in government and private secondary schools and its readiness to support ICT implementation. Few documents are used in the pilot study, however the majority of documents will be investigated and analysed in the main study. The first questionnaire is followed by the documentary research involving collection of different documents related to ICT implementation in Kuwait. The targeted authenticated documents are from official Kuwaiti authorities such as the Ministry of Education, Kuwait University and the Public Authority of Applied Education. Collecting and analysing those documents helped to generate very important data and answered some of the research sub-questions. This method took some time but it helped to gain valuable information relating to the research and become a helpful background for preparing the questionnaires and interviews used in the main study.

### **3.2 Data collection Instruments:**

#### **3.2.1 Documentary Evidence:**

At the beginning of this study, the plan was to use questionnaires and interviews only as instruments of research; however, during the process of the literature review and the formulation of the theoretical framework it was decided to include limited

documentary research as a third supporting method. The aim of including this method of research was to find out the effects of the strategic plan of the MoE, released in June 2003, which claimed to implement ICT in the Kuwaiti education system. This method of research looked at decisions of the MoE that interpreted its strategic plan in relation to ICT implementation through development of curriculum, human resources, infrastructure and financial and technical support. Different documents, including official reports and government resolutions, issued by the MoE and Teacher Training Colleges were investigated and analysed to answer some crucial research sub-questions about preparing the school environment for ICT implementation.

**Purpose:**

The main purpose of this indirect method of data collection is to have another angle from which to view the situation and to evaluate the existing strategy plan of the MoE towards ICT implementation in government secondary schools. This research technique provides a conceptual framework to gain a better understanding and interpretation of the research problem. It also provides valuable authentic data and fine detail that help to formulate other data collection instruments used in the two parts of the study. The documents investigated are mainly public and government documents and vary between primary and secondary documents. This data collection tool has influenced other data collection activities as questions in the questionnaires and interviews were changed several times before being piloted, in the light of the findings from the documentary research.



**Content:**

Documents were sought in the research that originated both from schools, the MoE and Teacher Training Colleges. They were selected if they might add to the understanding of the current ICT situation in government secondary schools and the way it operated, specifically in relation to ICT strategy, policy, planning and implementation. Some of the documents have influenced this piloting part of the research but their main influence was on the main part of the study.

**Implementation:**

During this pilot study the head teachers and school principals were asked for documents that they felt might contribute to the research. Various other documents were specifically requested from schools, the MoE and Teacher Training Colleges.

Those included documents such as:

- ICT development plan
- School management structure
- School inventory request
- ICT training course decrees
- ICDL Ministerial Resolution No 359/2002
- The strategic plan of the Ministry of Education issued in June 2003.
- The reports of educational spending from 2000/2001 to 2007/2008
- The modules' list of English Language students in the College of Education in Kuwait University for the academic year 1993/1994

- The modules' list of English Language students in the College of Education in Kuwait University for the academic year 2007/2008.
- The modules' list of English Language students in the College of Basic Studies in The Public Authority of Applied Education for the academic year 2007/2008.

Those documents were evaluated and filtered into a shorter list including the most related ones to the research areas. Those, consequently, were analysed and used as source of information that implemented in the questionnaires and interviews used in this piloting part and main part of the research.

### **3.2.2 Questionnaire:**

#### **Purpose**

The questionnaire aimed at giving an overview about the current situation with regard to ICT implementation in government secondary schools from the perspective of students. The purpose of this questionnaire was also to gain an initial understanding of attitudes, educational ICT knowledge and current ICT practice through students. It was also intended initially to determine specific factors and issues that could be of interest to investigate more deeply during the interviews in the pilot study. This will help to build up a clear picture of the current situation in ICT implementation and the individuals dealing with it.

#### **Content of Questionnaire**

As this questionnaire, (Appendix 7), is used to collect data from students, the closed format questions were used in the form of multiple-choice questions. Such questions are easy and it is quick to code and analyse their results. These types of questions

offer many advantages in terms of time and money and allow the researcher to filter out useless or extreme answers that can arise from open format questions.

The content of the questionnaire was divided into four main sections, presented as follows:

Personal information.

Personal use of the internet.

Educational use of ICT.

Difficulties and solutions.

The first section was about personal information related to gender, age and the location of the school. The second section related to personal use of the internet to set each response in context and provide some indication of the practices of participants in terms of personal use of computers at home. This section investigated the daily and weekly time that participants spend using computers and the internet. It also explored the personal activities they use the internet most for and the material they mainly use. The third section was about the educational use of ICT, where participants' use of computers and the internet for English Language Learning was explored. This section explored whether participants were encouraged to use the English language when using the internet and whether they found ICT supported any English language learning skills, such as listening, speaking, reading and writing. It also explored whether students were interacting with their schools or teachers through ICT. The section on the educational use of ICT was the longest section of the questionnaire, because it was considered as the main probing area of this part of the research. The fourth section explored the main difficulties that participants think hinders ICT implementation and discovered participants' suggestions to overcome those difficulties.

### **Piloting and Implementation:**

In order to evaluate the questionnaires in this research it was planned to test them on a small group of people, to undertake a pre-testing process and to check the first drafts of the questionnaires. Implementing questionnaires in a large survey requires three phases of evaluation. In the first phase, limited questions are asked of the respondents and the responses are analysed to evaluate the impact of every word and sentence and the way respondents understand them. In the second phase, the complete questionnaire is piloted and modified according to the analysis of the participants' responses and their understanding of the questions. The third phase of piloting the questionnaire polishes and improves the final draft, including content, time, length and layout.

This questionnaire was piloted on five secondary school students and two English language teachers in Kuwait before distributed to the actual sample. Some modifications were made to the questionnaires as a result of the pilot until it reached its final form. For example, questions number 4 and 13 in the questionnaire used for students were initially designed in a different way than in this existing one. In the piloted version students were asked to rank the items in each question from 1-5, starting with the most frequent/helpful item and ending with the least frequent/helpful item. The problem was that only some students understood the researcher's intention with the question, whereas a great number of them understood the opposite and started with the least frequent/helpful item or only chose one item. The pilot revealed that those questions were ambiguous for the participants and needed to be clarified and modified. Consequently, the researcher changed these two questions to more obvious forms, where participants ranked each item independently. The following extracts from the old and new versions of the draft

questionnaire showed the development that took place to make those two questions clearer and simpler.

**Questions before piloting:**

Q. 4 Rank from 1 – 4 what ICT you use most?

ICT Form	Rank
Entertainment	
Chatting	
E-mail	
Source of information	

Q. 13 Rank from 1 – 5 what ICT you found most helpful for?

Learning Skills	Rank
Listening	
Speaking	
Reading	
Writing	
Grammar	

### Questions after piloting:

Q. 4 'I use the Internet most for':

	Frequently	sometimes	rarely	never
Entertainment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e.g. games, music, films)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E-mail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chatting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source of information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others (please explain below)				

Q. 13 'I found the ICT most helpful for':

	Frequently	sometimes	rarely	never
Listening.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speaking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grammar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In some other questions, such as question number 14, the researcher needed to add some explanatory words in brackets after noticing that some students faced difficulties in understanding those questions.

### **3.2.3 Interviews:**

In this pilot study a semi-structured interviews was used as a third method of data collection, which helped to uncover more in-depth information about current ICT implementation in secondary schools in Kuwait. This information was explored through the experiences, thoughts, values and opinions of students and teachers. These limited interviews helped to explore current situation of ICT implementation and flagged main difficulties facing students and teachers. The rationale of using interviews in this research, alongside the other methods, was the intention to explore the barriers that were slowing down the MoE plans for ICT implementation in government secondary schools.

#### **Purpose:**

Semi-structured interview used in this pilot study was prepared for information collection from students and teachers to explore current personal and educational ICT implementation in secondary schools and to determine the related barriers. In addition, the purpose of interview is to double check the information that the researcher already had from his individual experience about the context of the research. The target of the student interviews was to explore the students' readiness for ICT implementation. It was also intended to obtain more information about the students' awareness of the benefits of using the internet in English Language learning and to discover the reasons that prevent other students from using the

internet during their studies. In addition, the interviews checked and elaborated on data gathered through the students' questionnaires.

### **Design:**

Designing semi-structured is not an easy task and needs to be carried out with a great deal of consciousness. To ensure that your interview is carried out smoothly and to maintain reliable information coming from your interviewees, you should create relaxed and comfortable conversations. In order to perform a comfortable but useful interview for this research, questions were planned and arranged carefully and interviewees were provided with a clear idea of the purpose of the interview before it started. Background questions like job title, responsibilities and organisations belonged to were set at the beginning of the interview and a friendly and comfortable environment was maintained during the interview. Questions were expressed using simple language and explained clearly to the participants; silence was sometimes used to encourage participants to continue their flow of speech without any interruption (Kvale, 2009). Interruption was avoided, especially when participants talked about important issues related to our study, but without leaving them to go on for too long in their answers. Asking vague, sensitive, leading and 'Yes/No' questions were avoided during interviews. At the end of each interview, the recorder was checked to make sure that the entire interview was recorded and no technical problems had happened during the interview (Cohen et al., 2003)

### **Implementation:**

Interviews in this research, (Appendix 3 & 4), were prepared to last for 30-45 minutes and, for ethical considerations, all interviews were preceded with an introductory letter from the researcher explaining the aim of the interview, the topic,



the time it would take, the maintenance of confidentiality and their right to withdraw from the interview at any time. Semi-structured interview was useful tool for this part of the study as it is an exploratory part. Nonetheless, it offered chances to reveal examples of comments regarding influential factors on ICT implementation in government secondary schools, including the schools and teachers' readiness, teachers' views, policies, main barriers to ICT and requirements for better ICT implementation. A high quality tape recorder and interview notes were used during the interviews. After finishing all the interviews, transcripts were made of all the recordings.

### **3.3 Sampling**

In relation to the questionnaire sample, simple random sampling was chosen because this kind of sampling is suitable for large samples that are representative of the original population under study (Cohen et al., 2003). To ensure that a random sample was obtained and that all participants had an equal chance of being selected for the first questionnaire, implemented in this exploratory part of the study, students were chosen from class lists and every third person on the list was invited to participate in the study. At the preparation stage of this pilot study, the researcher was planning to distribute the questionnaire among a greater number of students. However, it was decided that 50 students participated in the questionnaire, besides the documentary research and the interviews with 2 students and 2 English Language teachers, would be enough to offer a good amount of information about current ICT implementation and would answer the related questions for this pilot research.

### **3.4 Validity and Reliability**

In this piloting part of the research, issues related to validity and reliability were considered in all instruments used for the study: documents, questionnaires and interviews.

#### **Documents:**

Document assessment is a crucial stage before considering any document as a research reference. Authenticity, credibility, meaning and being representative are four important aspects that need to be evaluated during assessment of documents. There are different guidelines for assessing the authenticity of a document and, as we mostly deal with government documents in this research, the authenticity of the research documents is maintained. Credibility is also sustained in this research as most of the documents investigated are official documents, their quality is high and they are understandable and free of errors. The content, the issuing authority or person relating to a document and the date of issue are very important aspects to be considered when selecting documents for research (MacCulloch, 2004). To understand a document and its context we need to conceptualise it and frame the related research questions. The documents in this research were read in a critical approach that formulates documents and locates them within the wider social and political context of the whole situation. The social and surrounding factors are examined and the findings in the documentary research are correlated with the findings of other research techniques used in the study.

## **Questionnaire:**

The reliability of the questionnaire can be measured through several techniques that should give us the same results if we use the same questionnaire repeatedly with the same group of participants. Cohen et al. (2003) stated, *“for a research instrument to be reliable, it must demonstrate that if it were to be carried out on a similar group of respondents in a similar context, then similar results would be found”*. In order to measure questionnaire reliability, statisticians had devised some tests of reliability that should be applied to questionnaires before their real and final practice for data collection. One of the techniques of reliability measurement for questionnaires is the ‘test-retest’ reliability technique, which means conducting the same surveys with the same group of people but at different times. The reliability will be greater in cases where there is a closer result and vice versa. Another technique for reliability measurement of questionnaires is the ‘Split-half’ technique in which all items in a questionnaire are divided randomly into two sets in order to measure their reliability. In this research, Cronbach's Alpha was used to test the reliability of the questionnaires applied for data collection. It is a well-known technique for reliability measurement, which is used by the majority of novice researchers, because of its practicality and simplicity. It is a measure of how well each item in a scale correlates with the remaining items to measure consistency among individual items in a scale.

The validity of a questionnaire depends on its reliability and there are different basic approaches to measure the validity of questionnaires. In order to measure the validity of the questionnaires used in this study, the ‘construct validity approach’ and the ‘content validity approach’ were used. The construct validity approach was used where validity came from the correlation between the questionnaires and other

instruments used in the research, namely documentary research and semi-structured and open interviews that measured the same sample. The second validity approach used to measure the validity of the questionnaires is the content validity approach, where it was checked that the content of the questionnaire matches the situation under study and that the content is testing what it was intended to test (Cohen et al., 2003). First drafts of the questionnaires were piloted and a number of corrections were made for many questions in order to make them clearer and more understandable. Final drafts were handed over to two experts from Exeter University and one expert in Kuwait University for final fine amendments.

### **Interviews:**

Reliability of the interviews implemented in this study was maintained through pre-testing the interview schedule/guide to make sure that all participants would understand the questions without any ambiguity. In addition, the first two interview transcripts were analysed by the researcher and by another expert to confirm that the two analyses were giving the same outcomes and understanding (Silverman, 2001).

Validity of interviews was maintained by performing the 'constant comparative' technique, which is considered as one of the famous methods for evaluating data in order to ensure valid findings (Silverman, 2001). This would confirm the trustfulness of the research and indicated that it represented the actual social phenomena. As mentioned earlier, an analysis of two interviews transcripts was performed to check the reliability and validity of the instrument, where themes that emerged during the interviews were searched in different places in the same interview or in transcripts from other interviewees.

Findings of this part of the study can be divided into three parts according to the instruments employed for data collection: document evidence, students' questionnaire and semi-structured interviews.

#### **4.1 Document Evidence**

During this pilot study the researcher found a large number of documents that show the Ministry of Education's (MoE) strong intention to implement ICT in education. Yet other documents show that ICT implementation and the MoE's other strategic plans are facing different types of difficulties and challenges. Those documents were mostly issued between the years 2000 and 2008 and deal with different educational issues related to ICT implementation such as strategic planning, teachers' ICT qualifications and training, equipment, curriculum etc. Investigated documents include ministerial resolutions, administrative declarations, school memos, questions from Kuwaiti National Assembly members and newspapers. The head teachers and school principals were asked for documents that they felt might contribute to the research. Various other documents were specifically requested from schools, the MoE and Teacher Training Colleges.

Documents like; ICT development plan, school management structure, school inventory requests and ICT training course decrees, MoE (2007 & 2008), gave valuable information about policies and strategies adopted by the Ministry of Education towards using ICT in government secondary schools. They also showed ministerial decisions and actions that have been taken and executed in relation to ICT implementation in terms of infrastructure and teachers training in government secondary schools. On the other hand some document indicated some difficulties obstructing ICT implementation.

Ministerial resolution No. 359/2002 was issued in 03/08/2002 by the Kuwaiti Ex-Minister of Education, Dr. Rasheed Al-Hamad. This ministerial resolution is a very important practical step taken by the Ministry of Education towards qualifying educational staff in all schools in Kuwait with regard to the implementation of new information technology in education. The strength of this resolution is its comprehensive inclusion of all participants in the educational process in schools including teachers, head teachers, mentors, chief mentors, vice school principals and school principals. In addition, its obligatory nature, which ties the promotion of the current working staff and the employment of new staff to the acquisition of the ICDL certificate, has given this resolution a strong power. The financial support included in this resolution to acquire this certificate was also an important factor that sustained its feasibility and encouraged educational staff to attain the certificate within the designated time. Moreover, the resolution was keen to persuade teacher-training colleges to prepare new graduate teachers to acquire the ICDL certificate before graduation and also encouraged secondary schools students to gain this qualification. However, despite the great importance of this resolution and its comprehensive positive results on the educational body in Kuwait, it can be concluded that its problematic implementation has decreased its expected return and limited its forecasted benefits. This research has shown that a large number of educational staff in schools is still not qualified to use the new technologies, despite their acquisition of the ICDL certificate. In other words, the Ministry of Education has to provide continuous training for educational staff in schools and should not solely rely on the staff's attainment of the ICDL certificate.

The document of Kuwait Strategic Plan of Public Education has answered one of the major questions addressed by this research regarding the policies adopted by the

Ministry of Education (MoE) towards implementing ICT in government secondary schools. The Kuwait Strategic Plan of Public Education 2005-2025 was officially approved by the Ministries Council of Kuwait in June 2003 after its preparation by the Ministry of Education. One of the major objectives of this plan is setting a strategy to bridge the digital gap between the public educational system and the requirements necessary to deal with new technology. This document provides evidence of the importance that the Ministry of Education attaches to implementing new technologies in its educational system. It also demonstrates the intention of the Kuwait Government and National Assembly, which represent the Kuwaiti people, to bridge the digital gap between the public educational system and the necessary requirements when dealing with new technology in all educational and personal fields. This assertion is drawn from the fact that this aim to bridge the technological gap was included among the main six aims that Kuwait wishes to achieve during the 2005–2025 period in order to develop its public educational system.

Conversely, other instruments used in this piloting part of the research reveal that practical progress in schools is not moving at the smooth momentum towards the implementation of new technology in the educational system. This strategic plan and the projects emerge from it are not giving enough information about the pedagogical implications of ICT in schools and the role that each party needs to master in order to achieve the ambitious objectives of the plan (Hollingsworth, 2005). Difficulties still need to be investigated and solved by the socio-political parties in order to accomplish the strategic aims of the new educational system in Kuwait.

This limited instrument was found to be a very helpful tool that was used to connect the two parts of the study, although it was mainly used as an important source of

information for the main study. In this part of the research it provided useful information that expressed intention and plans of MoE towards ICT implementation. In addition some documents indicated some difficulties facing execution of MoE plans due to various factors that will be deeply investigated in the main study. This part of the pilot study has influenced the preparation and design of questionnaires and interviews used in this part of the study and the main research.

#### **4.2 Students' questionnaire**

Analysis of students' questionnaire (Appendix 8) used in this part of the study explores current usage of the Internet and other ICT features by students of government and private secondary schools after recent development of ICT applications and after its widespread use among individuals in the Kuwaiti community (Escwa, 2005; Escwa, 2007). Many researchers, such as Cuban (2001) and Tearle (2003), have investigated ICT implementation in model ICT school environments; however, the situation outside of the researched schools is not at the same level of ICT development. The situation in Kuwait is different, as ICT has recently spread among individuals in society while schools are still not using the new technologies in classes. As this exploratory part of the research does not seek in-depth information and is limited to an overall view of the current situation, the analysis of the data gathered was basic and simple, depending only on repetition percentages and a comparison of the responses from participants from the two types of secondary schools investigated (Appendix 8). As stated earlier, the rationale for including private schools in this research about government secondary schools is to discover if there are any noteworthy impact due to the differences related to policies and decision-making procedures. Private and government secondary schools' students share common general social, political, technological and educational



environments except in educational policies and decision-making procedures as private schools have a kind of independent from MoE. Finding differences in ICT implementation in those two types of school will help, to a certain extent, to narrow the focus in the main part of this study. It may highlight how specific factors like policy and educational management may affect ICT implementation. This part of the study will also help to explore to what extent have recent development of ICT and its spread in society find its way to secondary schools in Kuwait.

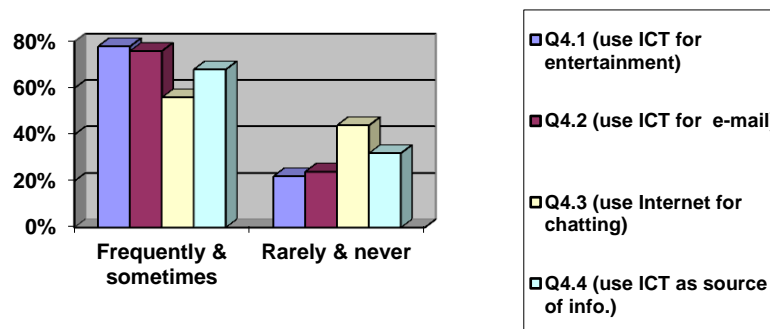
#### 4.2.1 General analysis

The first section of the questionnaire, which presents the personal information of the participant, might not seem credible, as personal information was not a major concern of this part of the research. However, it might be valuable to mention that this section of the questionnaire asked for the age and schools of participants. The data showed that 50% of the students are studying at government schools and 50% are studying at private secondary schools. The age of 90% of the participants is between 15 and 16 years old and 10% of them are between 17 and 18 years old (see Table 41).

**Table 41: Sample of questionnaire 1**

<b>Q2 (age)</b>	15-16 45	17-18 5	Older than 18 0
<b>Q3 (school)</b>	Government 25	Private 25	

The second section of the questionnaire addresses the students' personal usage of ICT, The responses to question no.4 indicate that 32% of the participants use ICT frequently for entertainment and 46% use it sometimes for entertainment. Furthermore, 54% of participants use the Internet frequently to send e-mails and 22% of them use it sometimes, 26% use chat frequently while 30% use it sometimes. Finally, 44% use ICT frequently as a source of information and 24% use it sometimes. This part shows that students are more likely to use ICT regularly for their personal use and reveal that they face no difficulties in using ICT in general. In order to highlight the findings of this important question, responses of participants are presented clearly in Figure 10.

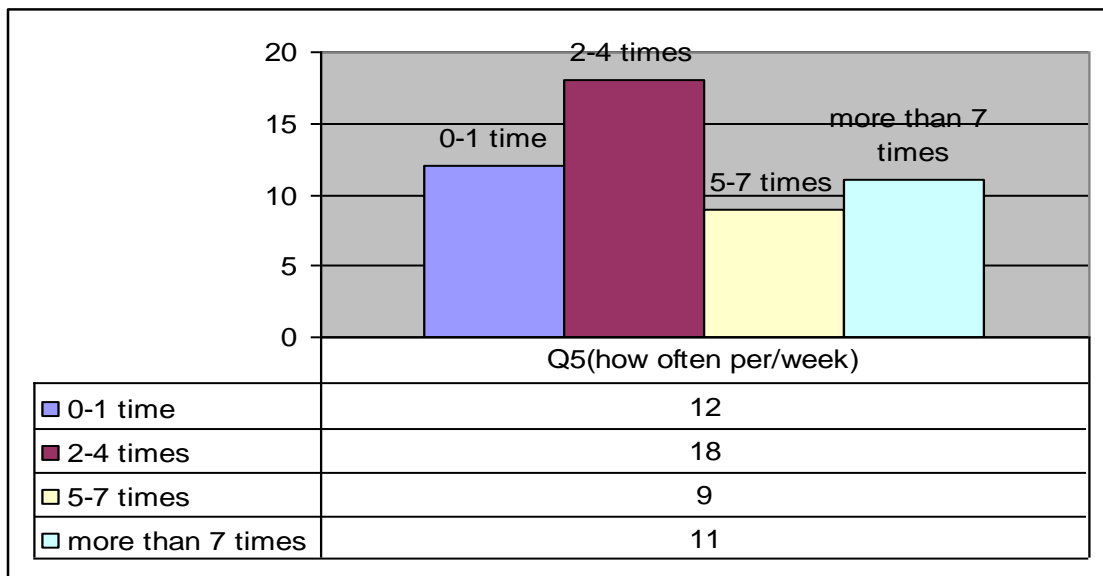


**Figure 10: Frequency of usage of ICT**

It is noticeable in this chart that entertainment and e-mail are used more frequently than chat and the Internet is used as a source of information. Nevertheless, using ICT as a source of information is more frequent than using the Internet to chat.

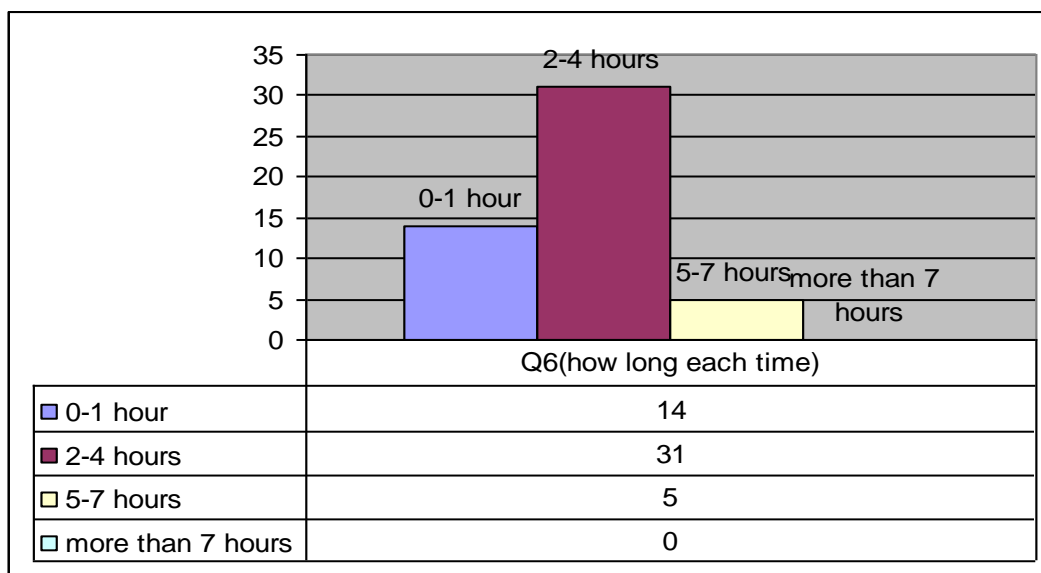
Question number 5, which asks about the frequency of Internet usage per week, shows that 40 % of the sample uses the Internet more than five times per week; 36 % of the participants use the Internet from two-four times per week and 24 % less than twice per week (Figure 11). The findings of the previous two questions indicate

the increasing spread of ICT among students for different purposes, mainly for entertainment, communication and as a source of information. The time students spend using ICT seems to be increasing, as 76% of participants use ICT from two to four times a week, or even more. This could demonstrate how the environment outside of schools in Kuwait is becoming more developed than the school environment, in relation to ICT implementation.



**Figure 11: Frequency of Internet usage per/week**

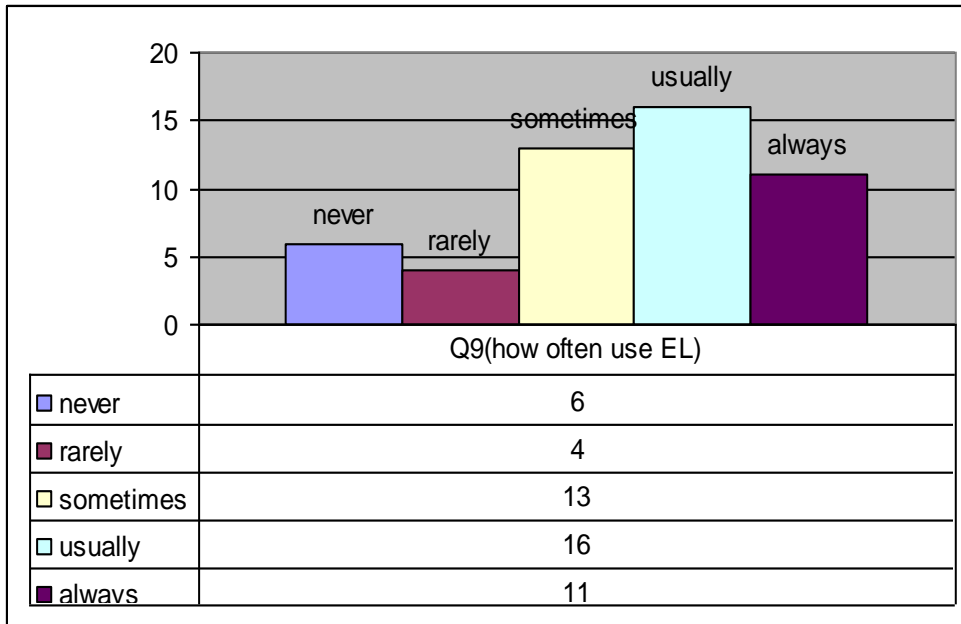
In addition, 62 % of participants use the Internet for two-four hours each time, while 28 % use it for one hour each time (Figure 12).



**Figure 12: Time spent using Internet**

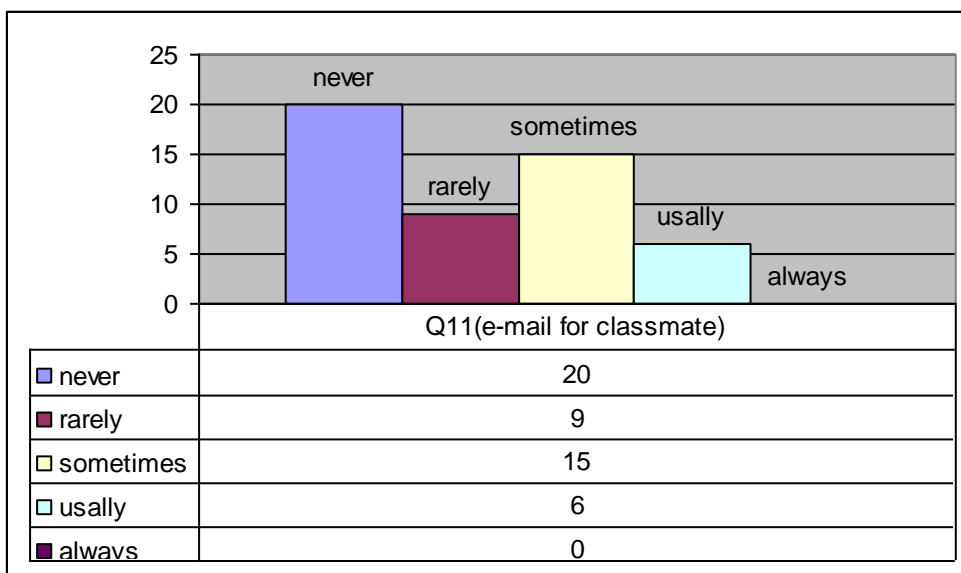
Question No.7 shows that 32 % of the participants only use text materials on the Internet and 62% use all other types of materials on the Internet (text, audio, and video).

The third section of the questionnaire about the educational usage of ICT demonstrates that 56 % of the sample uses ICT for English language learning, against 44 % who do not use ICT for English language learning purposes. Figure 13 shows that a considerable number of participants often explore the Internet using an English language interface.



**Figure 13: Frequency of EL usage when accessing ICT**

The data gathered in this section also shows that 30 % of the participants sometimes read English articles on the Internet and 28 % never read English articles. In addition, the results demonstrate that there is a tendency among the participants NOT to write e-mails to classmates in relation to their study issues (Figure 14).



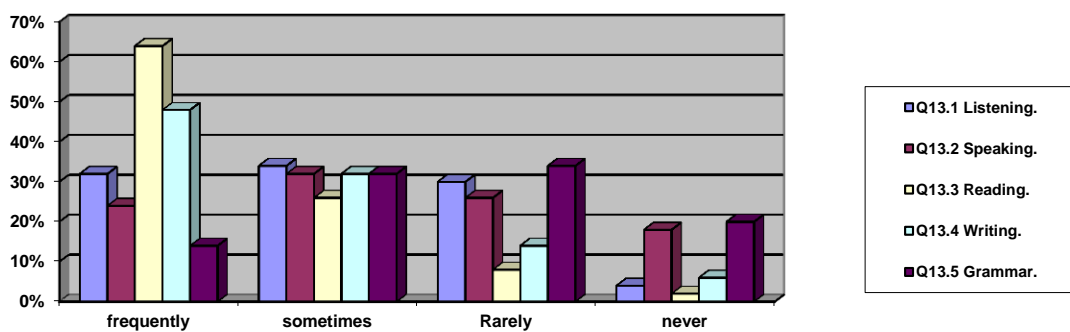
**Figure 14: Frequency of e-mails to classmates**

Moreover, this section shows that participants tend NOT to write e-mails to their teachers in relation to their study issues, since it was noted that 46 % of participants NEVER write e-mails to their teachers (Table 42).

**Table 42: Frequency of e-mails to teachers**

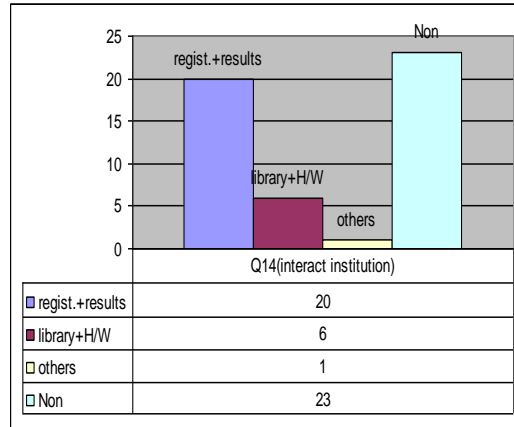
Frequency	Number	Percentage
Never	23	46 %
Rarely	9	18 %
Sometimes	13	26 %
Usually	5	10 %
Always	0	0 %
<b>TOTAL</b>	<b>50</b>	<b>100 %</b>

Participants demonstrate that they found ICT to be most helpful (Figure 15) for their reading more than other language learning skills. In second place, they also found ICT to be helpful for their writing. They indicate that ICT is least likely to help with grammar.

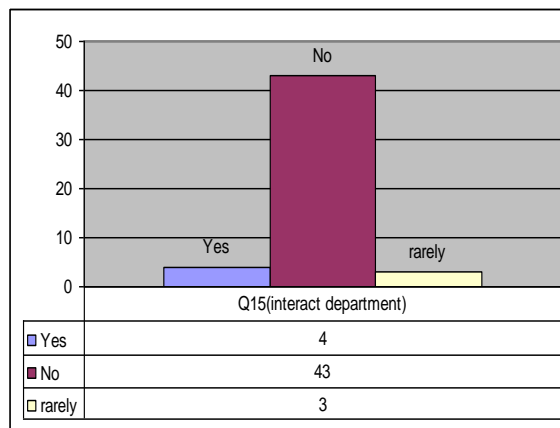


**Figure 15: ICT support for language learning skills**

The participants' interaction with their schools and English language departments through ICT was fairly limited; 46 % of participants NEVER use it to interact with their schools, while 40% use ICT with their schools for registration and exams results only. Finally, 86% of participants do NOT use ICT to interact with their English language departments (Figures 16 and 17).



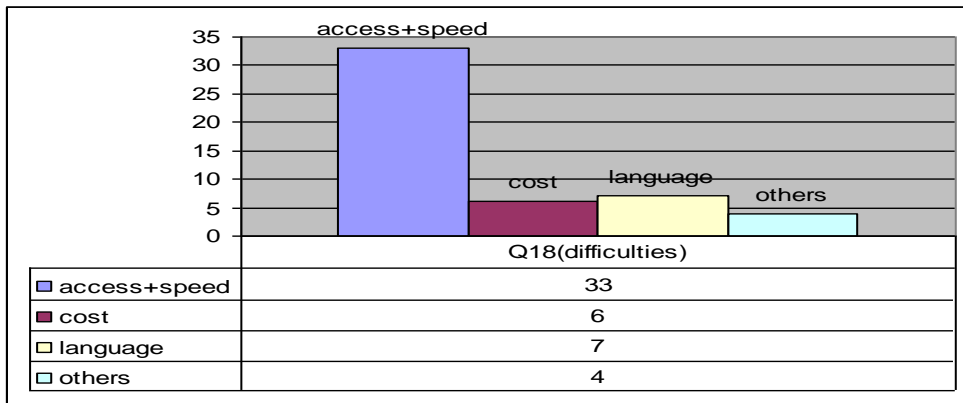
**Figure 16: Interaction with school**



**Figure 17: Interaction with EL department**

The final section of the questionnaire, about difficulties and solutions, shows that 66% of participants encounter difficulty with access and speed when they want to

connect to the Internet, while 12% found cost to be the main difficulty facing ICT users. Finally, 14% of participants face language difficulties when using the Internet as their English language ability does not adequately support their usage (Figure 18).



**Figure 18: Barriers against using ICT**

A few participants raised their parents' fears concerning non-ethical websites as a limitation to learning on the Internet. The solutions suggested for overcoming this difficulty mainly involve technical support, according to 50 % of the participants, while 28% indicate that training is an important solution to overcome difficulties with using ICT. Finally, 22 % of the participants suggested various other solutions.



#### **4.2.2 A Comparison Analysis of Government and Private Secondary Schools**

Although investigating ICT implementation in private secondary schools is not an interest area of this research, the researcher preferred to include students from those schools in the questionnaire. The reason for this inclusion was to have an idea if the independent policy and the freedom in management and decision making that private sector schools have affect ICT implementation. During the analysis process of the results of this questionnaire and after reading all the participants' responses, it appeared that responses to some of the research sub-questions are extremely different from participants from each school type (See Appendix 8). This dissimilarity indicated that a comparison of findings from data collected from students of government secondary schools and students of private secondary schools could help to obtain more useful data.

Table 43 shows the responses to a question about the frequency of using the Internet during the week. This table shows that participants from private secondary schools use the Internet more frequently than participants from government secondary schools. In fact, 36% of the participants from private secondary schools use the Internet more than seven times per week, while no participants from government secondary schools use it more than seven times per week. The most frequent period spent using the Internet by participants in both schools is almost the same; two-four hours.

**Table 43: Frequency of Internet usage per/week**

<b>Times Per Week</b>	<b>Government Schools</b>	<b>Percentage</b>	<b>Private Schools</b>	<b>Percentage</b>
0-1 times	10	40%	3	12%
2-4 times	11	44%	8	32%
5-7 times	4	16%	5	20%
7 times +	0	0%	9	36%
<b>Total</b>	<b>25</b>	<b>100%</b>	<b>25</b>	<b>100%</b>

Table 44 shows that 76% of participants from private secondary schools use ICT for their English language learning, whereas only 16% of participants from government secondary schools do the same. The participants from private secondary schools use English websites during their exploration of the Internet and read English language articles more frequently than participants from government secondary schools.

**Table 44: Usage of ICT for ELL**

<b>Using ICT for ELL</b>	<b>Government Schools</b>	<b>Percentage</b>	<b>Private Schools</b>	<b>Percentage</b>
Yes	4	16%	19	76%
No	21	84%	6	24%
<b>Total</b>	<b>25</b>	<b>100%</b>	<b>25</b>	<b>100%</b>

The question that addresses the students' interaction with their schools shows that NO participants from government secondary schools use ICT to interact with their schools. On the other hand, only 12% of participants from private secondary schools do not use ICT to interact with their schools, while 64% interact with their schools through ICT to access their exam results and 20% contact their schools this way to submit homework to their teachers.

Participants' interaction with English language departments is limited in both types of school. The responses to the question about this activity show that participants from government secondary schools DO NOT use ICT to interact with their English language departments at all and only 12% of participants from private secondary schools contact their English language departments through the Internet. This point is later clarified through interviews, as private schools are more interested in ICT implementation and approach it as a main promotional factor that encourages many wealthy families to send their children to private schools.

### **4.3 Semi-structured interviews**

#### **A- Students' interviews (appendix 9)**

The findings of the questionnaire used in this part of the study have answered several sub-questions about ICT implementation in government secondary schools in Kuwait; however, some of the participants' responses to the questionnaire need to be deeply investigated. This fact led the researcher to carry out interviews with some students' to clarify some crucial issues related to the students' personal and educational usage of the Internet and other ICT features in secondary schools in Kuwait. Although only two students were interviewed for this part of the study, very good qualitative data has been obtained from these two interviewees. The two

students were deliberately chosen to fulfil the following requirements: one student from private secondary school who does use ICT in his language learning and the other from a government secondary school who does not use ICT in his language learning.

The interview with the first student from a private secondary school indicates that he says he uses the Internet daily for two-four hours each time. He demonstrates that his school provides students with electronic versions of textbooks and other learning materials on CD for most of the subjects studied in their school. He asserts that he uses ICT for his English language learning by consulting electronic dictionaries, reading English language articles and, finally, listening and speaking to native speakers through chat. The interviewee claims that some English language teachers at private secondary schools oblige their students to send their homework through e-mail, which encourages students to learn more about using ICT to communicate with their teachers without the limitations of time and place. The responses also illustrate that most teachers use e-mail to contact their students for other matters related to their English language learning such as quiz results and language exercises. Moreover, some teachers advise and teach their students how to use some useful English language websites like electronic dictionaries and speaking learning websites. The general atmosphere of the learning environment among private secondary school students, in which most students use the Internet, has encouraged the interviewed student to learn more about using ICT for his English language learning.

On the other hand, this part of the study gives some indications that teaching in this educational sector could be still devoted to traditional methods. It shows that government schools might be still not prepared to implement new teaching methods

that employ the potential of ICT for educational purposes. The interview with the second student from the government secondary school shows that he uses the Internet up to five times a week for two-four hours each time. Most of his Internet usage is conducted in the Arabic language for e-mails, chatting and entertainment. He finds it difficult to explore and use English language websites because of the language difficulty. In his school, English language teachers and departments do not provide any training for their students regarding the usage of ICT for English language learning. The only training the students receive is general training for using computers and the Internet through the subject of IT (Information Technology) which is taught for one hour per week. This student demonstrated that implementation of ICT for English language teaching is not a top priority in his school and is not considered to be an important issue by teachers as they concentrate on using textbooks, whiteboards and overhead projectors in their teaching. Although a few English language teachers and IT teachers at some government secondary schools have designed simple school websites giving general information about their schools and the educational activities that might take place during the year, those websites could include some student profiles and perhaps students' exams results and a few educational materials.

The responses from this student show that he does not use ICT for his English language learning. He says that he is not aware how the Internet and other ICT features could support his language learning and how he might implement these technologies to aid his learning process. He believes that he needs to be trained how to use ICT in order to develop his English speaking prowess and that his school should provide fast Internet access in classrooms and the library. He also claims that

ICT implementation should be added to the curriculum, as he has not experienced any kind of ICT in his English language classes.

### **B- Teachers' interviews** (appendix 10)

Although the number of teachers interviewed in this part of the study was few, as this piloting phase is the exploration section, some very important qualitative data has been gathered through those four interviews. To present the findings from this part of the research, the common responses from all interviewed teachers will be summarised before focusing on the important responses from each teacher.

Teachers interviewed have experience of more than five years. They use the Internet for more than five times a week, two-six hours each time. They have free access to the Internet provided by their schools. They use e-mail and chat more than other features of the Internet and they usually simultaneously use English and Arabic websites during their exploration of the web. They mostly use text materials, but sometimes access audio and video materials through the Internet and other ICT features such as a new generation of mobile phones. In addition, they believe that Internet aids the acquisition of the four language learning skills (reading-writing-listening-speaking). They liked and appreciated the materials in some educational websites that they explored at the end of the interview, especially the lesson plans, the exercises and the quizzes. They disliked the fact that most of the electronic journals and the educational websites require a subscription or registration. They find access and speed of the Internet in public places in Kuwait to be unsatisfactory and have advised that the ministry of communication and Internet providers need to develop their services. They say that ICT could support English language teaching and learning if teachers and students are trained to use ICT for educational purposes.

They all believe that a small number of students in government secondary schools use the Internet and have e-mail accounts.

### **A) Teachers who do not use the Internet in their English language teaching**

The two teachers interviewed in this part of the research believe that current teachers' personal usage of the Internet and ICT features will not help to set up ICT implementation for English language classes in Kuwait secondary schools. Although most teachers have taken the ICDL, interviewees think that teachers are still not prepared, or even sufficiently trained, to implement the new technologies in their English language classes. They claim that teachers at secondary government schools are committed to the current syllabus that is written by the Ministry of Education and does not contain any instructions to implement ICT for teaching. Teachers are evaluated on their traditional teaching according to that syllabus.

One of these teachers uses ICT to get in touch with his colleagues and some of his students for various issues, including educational issues. He reads electronic journals for his individual needs; he said, *"I like to keep myself up to date with the latest tips in e-learning."* He states that the administration in his school would not appreciate his distinctive way of teaching; therefore, he only works according to the evaluation requirements of his job, which do not include use of ICT. He states, *"in our school they do not differentiate between good and bad teachers, and the criteria is your relationship with the head teacher only!"* This negative attitude towards evaluation could be one of the factors that limit ICT implementation in government secondary schools. This teacher has low expectations about the students' ability to cope with ICT implementation in English language classes. He argues that his students' level of English would not enable them to benefit from the materials on most of the English language websites. He believes that the current students' usage of ICT is only for entertainment through chat, post cards, funny or extraordinary e-mails and most communication is conducted in the Arabic language. Moreover, this



interviewee demonstrated that the cultural factors and the conservative nature of the Kuwaiti society are still hindering usage of the Internet in general. He adds that some Kuwaitis prevent their children from using the Internet, debating that it causes as much harm as benefits. Moreover, this teacher asserts that legal authorities in Kuwait have not yet determined the regulatory rules of interaction between teachers and students, which in turn discourages most teachers from giving their e-mail addresses to all students.

The other teacher interviewed for this part of the research suggests that training teachers how to use ICT for their English language teaching could help to make use of students' personal ICT experience when setting up ICT implementation in English language classes. He argues that government secondary schools need to work hard to bridge the gap between their current situation regarding ICT implementation and that of other institutions in Kuwait and other countries in the region. He adds that many government schools do not even have an Internet lab that teachers and students can use, except labs dedicated to the subject of IT. In addition, he claims that all necessary related requirements should be provided in the course of arranging ICT-based classes; he confirms, "*we should make plans for the suitable environment and requirements to start successful ICT-based classes.*" He suggests that English language departments in all government secondary schools need to be funded to subscribe to, at least, one English language electronic journal to enable teachers' access to other organisations' experiences and keep them up to date with the latest educational approaches and theories.

At the end of the interviews with those two teachers, the researcher asked them to explore and evaluate some English language learning and teaching websites. One of those teachers was not aware of the potential usage of ICT for English language

teaching, and had never looked at any English language learning websites before, which may be considered to be key information obtained from this interview.

### **B) Teachers who use the Internet in their English language teaching**

It was very difficult to identify English language teachers who use ICT in their English language classes at government secondary schools in Kuwait. The process of visiting different schools in different educational areas to meet those teachers took a long time. The researcher investigated schools that have good websites in order to find teachers who use ICT in their teaching, as good interactive school websites are an indication of schools that take an interest in ICT implementation. Most of the interactive school websites at government secondary schools were designed and supervised by active English language teachers and supported by active school principals who are interested in ICT implementation.

The two interviewees use ICT daily for different personal and educational reasons including exploration of English language websites. They both declare that they did not receive any in-service training from the Ministry of Education (MoE) related to the usage of ICT for their English language teaching and both rely on their individual interests in this field. However, they find the administrative environment and the students' personal usage of the Internet at their schools supports ICT implementation in their English language classes. Nevertheless, they complain that ICT implementation is not included in the syllabus and they find it difficult to set aside time to include some ICT materials without disturbing the syllabus plan written by the MoE. They state that the curriculum and syllabus need to be modified to include ICT materials and that English language teachers need more training to utilise ICT in their English language classes.

Those teachers state that most of the materials they use for their students are text and audio based, as most of the activities upon which they focus are reading and listening comprehension. Nonetheless, they claim that the Internet is a tremendous source of information on any branch of knowledge, which enables them to direct their students to the related websites according to their educational needs. They use exercises on grammar and vocabulary drill from several English language learning websites and demonstrated that most ICT classes are conducted in English language by different English language organisations and associations. One of these teachers does not often use ICT for speaking activities due to technological limitations. She considers the lack of Internet labs in her school to be one of the major difficulties that she faces when she plans any of her ICT classes.

#### **4.3 Data commentary on the pilot study**

Despite the time limitations faced by this part of the study and its limited size, a large amount of important data corresponding to current students' and teachers' personal usage of ICT has been gathered. The findings of this exploration part of the study confirm those from previous studies (Wheeler, 2003) that a high percentage of young Kuwaiti people use the Internet. The questionnaire applied in this part of the study shows that a large proportion of the participants use the Internet more than five times a week for two-four hours each time. Findings also demonstrate that participants use e-mails, chat and text materials more than other features of the Internet; Dudeney, (2000) considers e-mail to be the most frequently used tool on the Internet. In general, these findings could give a positive indication about the potential for utilising students' personal usage of the Internet when setting up ICT-based English language teaching for government secondary schools in Kuwait, although difficulties including infrastructure and training would be encountered.

With reference to using ICT for educational purposes, the results show that participants from private secondary schools use ICT more than participants from government secondary schools. The general educational environment at private secondary schools appears to be more prepared than government secondary schools to support using ICT for English language teaching.

On the other hand, the interviews with students and teachers from different schools reinforce the findings of the questionnaire, since they confirm the difficulties facing both teachers and students when using ICT. Findings from the interviews provide detailed information about the gap between private and government secondary schools concerning the general academic usage of ICT and the usage of ICT as an English language learning and teaching tool. The interviews with the two groups of English language teachers illustrate that the main obstacles hindering ICT implementation in English language classes are a lack of infrastructure, an inadequate curriculum and untrained teachers who cannot investigate and modify the students' personal usage of the Internet to support their English language learning process.

#### **4.4 Summary of Findings of Pilot Study**

With regard to the objectives of the piloting phase of the study, the first objective was to explore any practical actions taken by the MoE regarding preparation for ICT implementation according to Strategic Plan of Education (SPE) 2005-2025, released in 2003. Findings from the documentary research showed that the MoE has started taking many practical actions in relation to preparing the educational environment in government secondary schools for ICT implementation. For example, it has increased the number of computers in school administrations and provided all

educational departments in schools with at least one computer, a printer and a projector. It also provided all school administrations with internet access and equipped many schools with a presentation room (a room having a computer, a projector and, in some schools, a white board and internet access). It also equipped schools with a Student Registration System (SRS), where students' reports are registered electronically. In relation to teachers' preparation and training, the MoE has followed up the execution of Ministerial Resolution 359/2002 and the majority of teachers and administrators have obtained the ICDL certificate. Findings from the documentary research showed also the interest that the MoE is paying to educational development and its intention to carry out national educational reform, including introducing ICT implementation into schools. The Kuwaiti government and the MoE called two very important national educational conferences in 2002 and 2008, which diagnosed many educational weaknesses in the Kuwaiti educational system and proposed a number of solutions, strategic plans and projects. In addition, the Kuwaiti government and the MoE have engaged many European and American consultation organisations while formulating plans and projects for the future. The latest was the 'Kuwait Vision 2035', prepared by Tony Blair Associates in 2010, to support the Kuwait Development Plan (KDP), released in 2009. In conclusion, findings revealed that this objective has been achieved and that the MoE has taken many actions regarding ICT implementation. Nonetheless, they also revealed that limited number of the projects that the MoE started was completed and the majority of them are progressing very slowly and some of them were postponed or cancelled. With regard to the second objective of the piloting phase of this study about investigating if students/teachers have the basic requirements for the use of ICT, the first questionnaire and set of interviews revealed that students and teachers do meet

the basic requirements. The findings showed that the majority of students know how to use computers and how to search on the Internet. The amount of time that students spend using ICT looks to be increasing as 76% of participants use ICT from two to four times a week or more and 62% of them use the Internet for 2-4 hours a week. This indicates the increasing recent spread of ICT among students for different purposes, mainly for entertainment, communication and as a source of information. The related findings indicate that this objective has been achieved and may conclude that students' and teachers' general ICT competence enables them to implement ICT for educational purposes.

The third objective of the piloting part of the study, addressing the evaluation of any existing ICT implementation in government secondary schools, was achieved. The findings revealed that the majority of students are using ICT for personal reasons like Internet surfing, chatting and playing games or any other entertainment websites. However, they revealed that the educational use of ICT in government schools is dramatically limited and dependent on the existence of an enthusiastic teacher who instigates his students' use of ICT for English language learning. The situation in the private schools is better and revealed that school managements plays a major role in this regard.

The last objective of the piloting phase of the study regarding the current difficulties facing ICT implementation in government secondary schools was also achieved. The findings showed that 66% of the participants encounter difficulties with internet access and speed when using ICT. Many students considered language difficulties as a major hindrance in using ICT for their language learning and that they are not aware of simple language websites, as they have never been directed to such sites.

Teachers interviewed in this phase of the study asserted that lack of computers and the Internet are the main hindrances to ICT implementation.

## 5.1 Discussion of the pilot study

When the sub-questions related to this part of the research are recalled and the findings are simultaneously analysed, it is possible to identify to what extent the collected data has answered these questions and the main question of this research. Documents explored in this part of the research showed that MoE has a strong intention to bridge the gap between Kuwaiti educational system and technology. MoE is adopting a long term policy to implement ICT in education and have already accomplished many projects in this direction. Many training programs have been executed to enable employees and teachers to use ICT. Nonetheless, other documents and other data collection instruments revealed that ICT implementation in teaching is still facing various barriers and still in need to a continuous development and efforts to be successfully implemented.

The current personal usage of ICT, as a general-purpose means of communication, appears to be increasing among teachers and students according to the findings from the questionnaire and interviews, since the majority of the participants use ICT, including the Internet, more than five times a week for two-four hours each time. Wheeler (2003) asserts that, *“young people in Kuwait constitute both the highest concentration of Internet users (estimated to be approximately 63% of all Internet users in Kuwait) and the largest sector of Kuwaiti society.”* However, they face difficulties with access and speed when using the Internet and most of the participants suggest that Internet service providers in public and private places should use Digital Subscriber Line (DSL) instead of the slow dial up service. The teachers using ICT for their teaching claim that the MoE should approach the Ministry of Communication to equip all schools with fast Internet services. Students and teachers who do not use the Internet for their learning and teaching consider



access and speed to be the main obstacles that prevent them from using the Internet in this manner. This may persuade the MoE in Kuwait and the Ministry of Communication to improve the quality of Internet services in order to prepare a suitable environment for ICT implementation mentioned in 2003 in the strategic plan of the MoE.

E-mail, as the most frequently used tool on the Internet according to Warschauer (1995) and Dudeney (2000), is commonly used by most of the participants in all groups. The questionnaire shows that the majority of students use e-mail to send messages to their friends and relatives for general and language learning purposes. Interviews with the teachers who do not use ICT for their teaching illustrate that they use e-mail for general and individual educational reasons, for example, pursuing part time postgraduate study. One of the teachers who do not use Internet for their teaching has poor expectations of his students' ability to use e-mail. When asked question number 10, which focuses on sending e-mails to students, he asserted that 'not all students have e-mail accounts or know how to use them.' However, teachers who use the Internet for their teaching demonstrate that they use e-mail for general and educational purposes like writing to their students and receiving homework from them.

The use of English language by most of the students who participated in this study during personal usage of ICT appeared limited. Nonetheless, use of the English language to explore various websites by English language teachers and students, who use the Internet for their English language learning, was apparent and it seems that their language proficiency has supported their ICT implementation for educational purposes. Sa'aada and Sartawi (2003) demonstrate that most educational websites and English language teaching journals are written in English,

which requires Internet users to develop their English language abilities. This may echo claims by Warschauer and Whittaker (1997) about the mutual exchange of benefit between using the Internet to learn English and learning English to be able to function well on the Internet.

Current educational usage of ICT by teachers and students is a key aspect of this part of the study. General findings from this section show that some teachers and students use ICT for learning and teaching purposes. The information gathered from questionnaires, in relation to this part of the study, has revealed remarkable differences between participants from private and government secondary schools. These findings show that private secondary schools are leading the way in general ICT usage and also in the field of education and English language learning and teaching. A comparison between participants' responses from the two types of schools regarding their interaction with their schools or their English language departments shows that participants from government secondary schools have NEVER interacted with their schools through ICT. On the other hand, participants from private secondary schools use ICT to contact their schools and English language departments in order to check exam results and to submit homework. Other educational Internet activities, such as reading articles, posting homework, completing English language exercises and contacting teachers are more frequently carried out by participants from Kuwait private secondary schools than participants from government schools. One of the interviewed teachers declared that government secondary schools are way behind private secondary schools in Kuwait and other countries in the gulf region in relation to ICT implementation. Although some teachers in government secondary schools are enthusiastic about implementing new technologies in their teaching, the interviews show that other teachers have a

negative approach and low expectations towards ICT implementation. When question number 12 was put to one of the interviewed teachers who does not use ICT in his English language teaching, in order to find out whether he writes e-mails to his colleagues about issues related to teaching studies, he replied ‘to be frank with you, few teachers in government secondary schools care about developing themselves or searching for new teaching studies.’

When I followed up with a question about the reasons behind this negative belief, he opined that teachers’ motivation in government schools is weak because of diverse individual and administrative problems. He added that the unjust criteria for promotion and discrimination between teachers in some schools discourages and frustrates most of the teachers, which in turn affects their performance and hinders their ability to instigate new teaching styles and methods. The responses from the interviewed teachers reveal that some administrative regulations have a negative impact, on teachers’ performance related to teachers’ assessments. Findings from interviews related to teachers’ evaluations are in line with findings from the documentary analysis of teachers’ evaluations applied in government secondary schools where ICT implementation is neglected and most of the evaluation points focus on attendance, preparation of lessons and cooperating with administrative regulations.

The responses of participants to the questionnaire and interviews, from another perspective, show some positive educational possibilities in government secondary schools in relation to current ICT implementation. Students’ responses to the questionnaire reveal that participants found ICT to be most helpful to their reading and listening skills. Most of the participants found reading articles on the Internet to be a supportive tool to develop their reading skills, and some of them practice

listening to audio clips and listening activities on the Internet, iPods and the recent generation of mobile phones. Some responses show that writing e-mails in English to non-Arab friends is good practice for writing in English and typing. Usage of ICT did not appear to strongly support speaking skills, according to participants' responses, although some found chat to be a helpful tool to develop speaking. One of the students declared that *"ICT developed my reading, writing, listening and speaking more than English language classes in school."* Many questionnaire participants found dictionaries on the Internet and on mobile phones to be very helpful in increasing their vocabulary, and some found that certain websites support their English language grammar by providing many grammatical exercises and test samples. Interviewed teachers found some ICT materials to be very helpful since they contain usable language learning activities. They like the teaching lesson plans and the reading, vocabulary and grammar exercises. They demonstrated that some websites need input from the teacher to be beneficial, which supports Walker's (2003) claims about the importance of the role of the teacher and the fact that pre-task planning that is considered a key issue in the use of technology in English language classrooms.

Teachers who are using ICT for their English language teaching at private secondary schools have provided this part of the study with significantly valuable information in relation to educational possibilities of ICT implementation. The two interviewed teachers from private schools claim that reading and listening comprehension activities are very helpful. In addition, they assert that using ICT for English language teaching provides teachers and students with an unlimited variety of educational possibilities including grammatical exercises and language activities. They argue that ICT implementation motivates learners to continue the language

learning process outside the classroom, which supports self-learning practice and frees the learner from the limitations of time and place that can obstruct English language learning progression.

When looking at the limitations of using ICT in general and, more specifically, in government secondary schools in Kuwait, all participants in this part of the study agreed that they face different types of difficulties that limit the chance to implement new technologies. Some of those difficulties are related to the current infrastructure of government secondary schools, which has an impact on access to and the speed of the Internet. Some other difficulties relate to students' language ability, as it does not support them when exploring many English websites, which shows the need to guide the students to the most useful and suitable websites for their language aptitude. Teachers also assert that most constructive language websites require subscriptions before access is permitted, which requires the school to assign the necessary subscription fees. For some teachers, the time consuming preparation process of ICT implementation in English language classes is a major difficulty that they prefer to avoid. Additionally, some participants revealed that certain families still try to avoid allowing their children to learn how to use the Internet because of their concerns over ICT threatening social morals. Participants asserted that some parents wish Internet experts and educators to provide a moral-secure ICT environment in government secondary schools.

## **5.2 Suggested solutions from part one**

To reduce the resistance against using ICT in general and to motivate its use for educational purposes, the findings from this part of the study suggest that a number of actions need to be taken by stakeholders. Firstly, sufficient funds need to be paid

to educational institutions and schools to provide adequate ICT services for all teachers and students in all government secondary schools. This includes enough Internet labs and subscriptions to at least the most important journals and language learning websites. Secondly, continuous technical support for the Internet service must be maintained, in order to avoid any difficulties with access or the speed of the service. Thirdly, facilitating training for teachers and students will enable them to deal with ICT properly and would help to take advantage of their current personal experience of ICT in educational learning situations. In this regard, participants recommend that training needs to be aimed at teachers and, once they have mastered the process of preparing ICT English language classes, they can then undertake students' training as part of the pre-task preparations. Finally, the regulations for teachers' assessments should be revised and their weaknesses assessed to distinguish between weak and strong teachers so they can be promoted accordingly. This would motivate teachers to develop their ICT teaching skills and encourage them to keep updating their knowledge with the latest theories and methods of teaching.

The main solutions suggested by the participants of this study in terms of those limitations centre on four main factors:

- Funding educational authorities to provide sufficient ICT services for all teachers and students in all government schools.
- The provision of technical support by service providers, to facilitate access and to increase the speed of the Internet.
- Training students and teachers to enable them to use the potential educational advantages available in ICT.

- Motivating teachers to develop their general teaching skills and ICT language teaching skills throughout comprehensive and consistent evaluations.

The analysis of the findings of this part of the research through the triangulation of data gathered from all research methods applied in this part of the study led the researcher to ask more open-ended questions about conditions of ICT implementation in government secondary schools in Kuwait. The findings of this exploration part of the study have indicated that the researcher must modify some of the questions to be asked of teachers and educators in the main part of the study. Moreover, in light of the findings of this part of the study, new questions were also added to the questionnaire and the interviews planned for the main study of the research in order to investigate the research area more thoroughly. However, the pilot study has demonstrated that ICT has entered the daily lives of people in Kuwait and that students' and teachers' current personal and educational use of ICT could support ICT implementation in government secondary schools. The issue of ICT implementation for educational purposes and for English language teaching in Kuwait seems to be related to educational institutions and teachers more than the students. Al Othman (2003) explains that,

*“Educators and officials in Kuwait, as well as in many other countries with educational systems that use conservative, old-school teaching and learning methods or strategies that emphasize teacher-centred classrooms, must take the move, immediately, to integrate CALL or CAL, in general, in their classrooms. This will, definitely, help officials change the educational systems to suitable ones that can survive the current universal change.”*

### **5.3 Conclusion of pilot study:**

The findings from this exploratory survey and interviews have contributed to answering important research questions and preparing the ground for the main part of the study. Firstly, it has highlighted different issues related to participants' ICT competencies, infrastructure, training, policies and many other difficulties facing students and teachers when using ICT for personal or educational purposes. The survey and interviews used in this part of the study revealed that students and teachers are using new technologies, such as computers and the internet, for various personal needs, such as entertainment, communication and as a source of information. This has helped to save time in investigating whether students' and teachers' ICT competencies are among the barriers to ICT implementation and to determine the focus of the main part of the research. It showed that government secondary school students' and teachers' basic competencies in the use of ICT are adequate and did not form one of the hindrances to ICT implementation.

In addition, this part of the study has revealed that context of ICT in 2007 and 2008 is very different from the context investigated by other researchers, such as Cuban (2001), a few years previously. It showed that ICT has become more widely spread and is used outside of schools and among different community sectors, including by secondary schools students and teachers. The comparison between participants from government and private secondary schools has indicated that the ICT context in Kuwait at this point in time has developed and become more suitable for ICT implementation than a few years ago.

The survey and interviews also showed that policy making and management of schools play a major role in ICT implementation and could be the main factor



behind ICT implementation in private schools leading the way, rather than government schools. All the participants in the survey share the same general context and social background, however, the management of private schools could be the reason why participants from private secondary schools have been more supported in implementing ICT personally and educationally. The management in all private sector schools is free to design and develop their curriculum and set their own educational policies, according to their needs, within the general aims of Ministry of Education (MoE) in Kuwait. On the other hand, the management in government schools is not allowed to make any changes to the curriculum or any aspects of the educational system and have to follow the directions and implement policies laid down by the MoE.

#### **5.4 Limitations of this section of the research**

In the preliminary stage of this study and specifically during the Literature Review, the researcher encountered a crucial obstacle. That fundamental obstacle was the lack of literature related to the usage of ICT in English language teaching in Arabian and Kuwaiti educational environments, although literature related to the usage of the Internet and other ICT features for general educational purposes is fairly extensive. Most of the related literature in Kuwait is theoretical, on a very limited scale and is not aimed at government secondary schools.

The practical side of this part of the research has proceeded smoothly in general and a reasonable amount of information has been gathered using the designed data collection instruments and through the available time and facilities. However, a considerable number of limitations have slowed the study's progress and prevent some more important data from being obtained to support the results. The main

hindrance that faced this part of the study was the time factor, since the piloting part of the study took place during the last month of the educational year 2007/2008. In this time period, both teachers and students are very busy and do not have much time spare. Most of the subjects are taught on a daily basis and teachers and students can hardly find time to eat or rest during the day. As the piloting part of the study was an exploration and the number of participants planned to be questioned and interviewed was not large, this limitation did not hinder the achievement of the objectives. On the other hand, the main part of the research has maintained coverage of all areas of investigations that might be missed during the piloting part of the study.