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Key Stakeholders' Perceptions of the Effectiveness of a Higher Education Programme in the State of Kuwait

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Declaration of Original Authorship

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

Yousif Alanezi

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Abstract

Kuwait has a vision to become an active economic and financial hub by 2035, and educators were recently asked by the Emir to review the educational system to see if it meets the requirements of the job market to fulfil this purpose. The higher education sector in Kuwait is thus expected to play a significant role in preparing the country's future workforce; however, the literature on Kuwaiti higher education makes clear that the higher education system needs revision.

This study examines and analyses the perceptions of key stakeholders towards the educational technology programme of the Educational Technology Department in Kuwait, in terms of its programme pedagogy, technology and resources. This study investigates whether, and to what extent, the department is aligned with the government's vision.

To this end, the study applies an interpretivist paradigm, an inductive qualitative methodology approach and a case study strategy. Interviews and focus groups were appropriate methods for the research because there were various perceptions of the programme, and each research participant had her or his own interpretation. The data collection involved semi-structured interviews with 12 academic staff members of the programme and with eight managers at the MoEIA (Ministry of Endowments and Islamic Affairs), one of the main recipients of the programme's graduates, as well as 16 focus group discussions with 78 final-year students of the programme. The theories that underpin the current study include both socio-constructivism and technological pedagogical content knowledge (TPACK). The data were analysed by applying thematic analysis.

The study yields several important findings. Academic staff and students perceive the educational technology programme pedagogy to be ineffective (for example,

involving outdated curriculum content), and they suggest that the programme does not meet the job market demands. In addition, both academic staff and students view the technology used in the programme as inadequate and not in line with the predominance of information and communication technology (ICT) in the 21st century. In this regard, they point to the programme's reliance on face-to-face lecturing and communication in the current digital era. Moreover, academic staff and students indicate that the programme lacks resources; for example, they cite defunct computers and poorly equipped classrooms and media studios. MoEIA managers also report that the educational technology programme offers outdated technology solutions, and that its graduates lack professionalism and experience of organisational culture – arguing that graduates exemplify a student culture rather than a work one. To illustrate this point, the managers mention students not being on time for work and being uninterested in job tasks. In general, the MoEIA managers who participated in the research stated that there is a mismatch between the programme's teaching and the MoEIA's expectations.

Academic staff and students made many suggestions for improvements in the educational technology programme, suggesting that the programme should implement pedagogy (e.g., digital content and blended learning), make greater use of technology (e.g., using websites and smartphone apps) and improve its resources (e.g., equipping classrooms and providing Internet access in the department). Similarly, MoEIA managers clearly defined their expectations of the programme's graduates, which include teamwork skills, being prepared for an organisational culture, critical thinking, problem-solving, ICT communication skills, and digital media skills in video, sound and graphic design.

The study concludes by offering a set of recommendations that aim to improve the educational technology programme in terms of pedagogy, technology and

resources, enabling it to contribute to the achievement of the government's Kuwait 2035 vision.

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List of acronyms

CAIT	Central Agency for Information Technology
CMC	Computer-Mediated Communications
CSC	Civil Services Commission
ICT	Information and Communication Technology
KFAS	Kuwait Foundation for the Advancement of Sciences
KU	Kuwait University
KUNA	Kuwait News Agency
MOE	Ministry of Education
MoEIA	Ministry of Endowments and Islamic Affairs
MoHE	Ministry of Higher Education
OECD	Organisation for Economic Co-operation and Development
OPEC	Organisation of the Petroleum Exporting Countries
PAAET	The Public Authority for Applied Education and Training
RAT	Replacement, Amplification and Transformation
SAMR	Substitution, Augmentation, Modification and Redefinition
TPACK	Technological Pedagogical Content Knowledge
VLE	Virtual Learning Environment
WEF	World Economic Forum

Chapter 1: Introduction

1.1 Background

The Kuwaiti government recently launched its vision, 'Kuwait 2035', which aims to enhance higher education, diversify the country's revenues and create a dynamic economy centred around a financial hub (Al-Diwan Al-Amiri, 2018). The launch of Kuwait 2035 comes at a time when the Kuwaiti economy is under heavy pressure after oil prices decreased from US$140 per barrel in 2014 to US$29 per barrel in 2016, averaging around US$60 in 2017 (OPEC, 2017). The Kuwaiti economy relies heavily on oil as its main source of income (World Bank, 2018) and therefore wishes to provide a more stable future revenue stream.

Kuwait 2035 aspires to turn Kuwait into a contemporary financial and trade centre, but this will require a transformation in its approach to labour. The current Emir, Sheikh Sabah Al-Sabah, who launched Kuwait 2035, is asking the government to modernise its work culture, which requires that the educational system be reviewed and updated so that it measures up to modern requirements and meets international assessment standards, such as those developed the World Bank (Al-Diwan Al-Amiri, 2018).

Education and technology are two important pillars of Kuwait 2035 (Al-Diwan Al-Amiri, 2018; MoHE, 2008). Current MoHE objectives for higher education include taking full advantage of digital technology and bridging the gap between the universal and local contexts (MoHE, 2008).

Indeed, the Organisation for Economic Co-operation and Development (OECD, 2017) and the World Economic Forum (2017) have declared that effective higher education and technology have a major role in improving governments and

individuals, in various ways. For instance, an OECD research team (2017) argued that effective higher education has a positive impact on a country's prosperity, particularly in terms of the economy, security and personal development. Similarly, a World Economic Forum (2017) research team predicted that educational technology will play a fundamental role in equipping students for the 21st-century job market.

A report by Brinkley, Hutton, Schneider and Ulichsen (2012) for the Kuwait Foundation for the Advancement of Sciences (KFAS) on the subject of Kuwait and the knowledge economy stated that economic development in the 21st century is largely being determined by changes that have appeared over the last 30 years and that are advancing steadily, both in terms of extent and proportion. These changes include:

- The growth of technology and knowledge-based sectors of the economy as primary catalysts for increased value, exports and new jobs.
- The shift in business investment preferences away from physical assets and towards knowledge-based intangible assets instead.
- The growth of an increasingly qualified and well-educated labour force.

Unfortunately, Kuwaiti higher education has not yet reached the desired level, and as a result, employers are reluctant to recruit citizens who completed their higher education in Kuwait because they tend to be weak in both knowledge and skills (Al-Jasem, 2017). A body of studies has been critical of the Kuwaiti higher education sector (Al-Rashed, 2012; Albadir, 2014; Buarki, 2010; World Economic Forum, 2017).

In order to help countries to reform their higher education institutions (HEIs), the World Economic Forum (WEF) carries out regular research. One such study, led by Professor Klaus Schwab (World Economic Forum, 2017), includes a review of Kuwait's education sector and provides annual indicators across a set of 12 dimensions related to competitiveness, which is defined as:

> *…the set of institutions, policies and factors that determine the level of productivity of a country. [The WEF focuses] on productivity because growth models suggest that, in the long run, productivity is the most fundamental factor explaining the level of prosperity of a country and hence its citizens (World Economic Forum, 2017, pp. 43–44).*

Because the present study focuses on higher education as a core factor for prosperity, only the education dimension of the WEF report was examined. Table 1-1 shows their rankings for Kuwait, among 148 countries, for higher education and training (World Economic Forum, 2017).

DIMENSION	RANK	SUB-DIMENSION	RANK
Higher education and training	94	Quality of the education system	86
		Quality of maths and science education	105
		Quality of management	92
		Internet access	91
		Research and training services	113
		Staff training	80

Table 1-1 Kuwaiti higher education ranking, 2016-2017 WEF report

The rankings clearly reveal weaknesses in the Kuwaiti education system, as most scores are quite low. There are major issues in the quality of the Kuwaiti education system, which is ranked 86th, with the weakest factor being research

and training services, coming in at 113th. It is clear that there is a need to examine the Kuwaiti education system and propose recommendations for improving it.

This research will explore three key areas that are relevant to the current Kuwaiti higher education system, by seeking student and staff views about ICT preparation. These three areas are: perceptions of university students towards the effectiveness of their educational technology programme, the reflections of academic staff about graduates of the programme; and to what extent the programme graduates fulfil employers' expectations and the future needs of the country.

In regard to the first area of focus, studies have confirmed that Kuwaiti students in higher education are poorly prepared in their specialist subjects (e.g., information science and accounting), due to current teaching methods that are less than effective (Al-Rashed, 2012; Albadir, 2014; Buarki, Hepworth, & Murray, 2011). For example, Buarki et al. (2011) argued that there is a lack of instructed ICT preparation within HEIs in Kuwait, and they suggested that this lack of preparation could be a reason why these university graduates have such low levels of ICT competency. They concluded that the lack of ICT skills among students has a negative impact on their employability after graduating from university. This is also a focus of the present study: to examine students' perceptions of the provision of ICT in higher education in Kuwait, and the impact of that preparation on their subsequent employment.

In a systematic review of the impact of instructional development on HEIs, Stes, Min-Leliveld, Gijbels, and Van Petegem (2010) suggested that future research needs to consider 'the core characteristics of instructional development

initiatives', with a particular focus on the theory and the content that drive these programmes (p. 47). This present study engages with this imperative by employing the theoretical lens of Technological Pedagogical Content Knowledge (TPACK) in investigating how university academic staff integrate ICT into their teaching practice.

Al-Fadhli and Khalfan (2009) have argued that some of the key factors affecting the progress and evolution of ICT in HEIs are:

(1) the markedly diminishing costs of ICTs, along with wider access, which in turn provides further educational opportunities;
(2) the potential for enhancing and augmenting traditional educational methods by using various forms of ICT, such as web-based learning and synchronous and asynchronous communications;
(3) the students' demand for more flexible forms of access to education, with part-time students in particular showing more interest in e-learning courses;
(4) the widespread view of educational boards and institutions that expanding the use of ICT will allow them to increase the number of students enrolled in any given institution;
(5) the effect that e-learning and advanced ICT equipment have on an institution's reputation, which is particularly important in a competitive market where schools and universities are vying for prestige in a bid to attract students; and
(6) the exponential growth in the number of e-learning courses, in addition to the race among institutions to establish such courses based on the prevailing belief that online learning has the potential to cut costs, boost productivity and improve overall efficiency.

After graduating, Kuwaiti higher education students seem to possess rudimentary ICT skills, such as switching a computer on and off and basic typing skills, but they have few online or navigational skills in relation to browsing various websites (Alharbi, 2016; Burki, 2010). In addition, they lack advanced ICT skills, such as designing and developing webpages or carrying out maintenance of their ICT (Burki, 2010).

The second area of focus for the present research is linked to employment. There is a gap between the preparation provided and that which is required by employers. This may partly be due to a lack of communication and dialogue between Kuwaiti higher educational institutions and organisations that comprise the job market (Albadir, 2014). The present study therefore investigates this relationship, exploring how academic staff in higher education perceive the job market and consequently how they prepare students for their careers.

Buarki et al. (2011) point out that employers and graduates agree that they must collaborate in assessing the curriculum by gathering feedback from potential employers regarding the type of ICT skills and preparation required for the workplaces. The present study investigates this topic by examining the perceptions held by academic staff, students, and managers at the MoEIA regarding the effectiveness of the educational technology programme's teaching and its graduates.

The final area of study is the Kuwaiti government's constantly expanding use of ICT in government departments, and its enthusiasm for embracing such technologies, which has advanced the establishment of an IT infrastructure in the country that is capable of embracing new applications such as e-commerce, e-government, and e-learning. For this purpose, the government established the

Central Agency for Information Technology (CAIT), which has a variety of roles, one of which is to draw up the general technology policies for the country. It is worth noting that CAIT and the government have been working with the National Assembly to issue legislation on information technology in governmental organisations; Act 20/2014 was approved for this purpose in 2014 (CAIT, 2017). This legislation deals with the use of digital technology for formal transactions, communications or contracts in all governmental organisations.

The number of Internet users in Kuwait has increased dramatically since 1990, according to the Arab Human Development Report, which cites the percentage of users as 0% in 1990, 23% in 2003, and 37% in 2009 (Alkharang & Ghinea, 2013). Kuwaitis are prolific Internet users, according to the Global Information Technology Report for 2015, which ranked Kuwait fourth worldwide in terms of mobile telephone subscriptions, with a value of 190.3 per 100. This proclivity towards the Internet and mobile technology among Kuwaitis has not been successfully transferred into ICT benefits, though, and technological advances have rarely brought about positive outcomes for education. The current study explores this conundrum; it considers the international movement towards an information-based society and the evolution of technology and the use of the Internet in higher education in Kuwait, whilst underlining that ICT can be a means to improve organisations' learning and preparation for the job market. This study also examines the barriers that need to be addressed to help understand the context of ICT integration in higher education in Kuwait, and how higher education prepares graduates for jobs.

The KFAS report by Brinkley et al. (2012) states that ICT development in higher education is a key driver of innovation in Kuwait:

> *Innovation has thus become increasingly important as a driver of growth, along with rising investment in 'intangible' assets with a knowledge character, like research and development (R&D), design, and information and communication technologies (ICTs).*

Many studies have confirmed the various benefits of higher education for society (Baum & Payea, 2005; Pstaor, de Guevara, & Perez, 2010; Puukka & Goddard, 2008). Pstaor et al. (2010) showed that higher education increases societal productivity, and Baum and Payea (2005) reported a link between a higher education degree and a person's income level. In addition to these views, Puukka and Goddard (2008) stated that higher education has the ability to transfer technology and practical knowledge to students and the extended society, and they argued that higher education can support individuals and countries in finding new incomes for their economy.

1.2 Research gaps that the study addresses

The field of educational technology and MoEIA as a job market have not been explored extensively in the research literature. In the Kuwaiti context, for example, none of the studies discussed in this review and in the context chapter (Al-Daihani, 2011; Al-Rashed, 2012; Albadir, 2014; Buarki, 2010) have dealt with educational technology as a programme. In addition, researchers have not examined the details of educational requirements in the light of job market needs and the Kuwait 2035 vision, bearing in mind the statements of leaders at the Kuwaiti MoEIA (MoEIA, 2017) who expressed the need for digital technology to enhance job activities, as promoted by Kuwait 2035. Therefore, this study is mainly concerned with educational technology graduates and labour market needs. To investigate this area, it interviewed managers and current students, and the study also considered Kuwait 2035. In this way, the study attempts to

examine educational technology and to fill the gaps left by previous studies, with the aim of offering recommendations for meeting the demands of the job market – and ultimately turning out better qualified graduates. This will thus help in meeting the current and future labour market needs and achieving the goals of the Kuwait 2035 vision.

1.3 Research questions and objectives

This study aims to examine the perceptions of academic staff, students and managers at MoEIA, who constitute the core of the recipients of the educational technology programme, with the goal of enhancing its effectiveness and fulfilling the government vision, Kuwait 2035. In doing so, the study seeks to aid the teaching practices of academic staff, support the students' educational achievements and add value by presenting suggestions for best practices. The particular objectives of this study are as follows:

- To identify the current challenges in the implementation of pedagogy, technology and resources within the educational technology programme, as described by the study participants.
- To identify stakeholders' perceptions of the pedagogy, technology, and resources that should be implemented at the educational technology programme.
- To make recommendations for the educational technology programme, based on the perspectives of academic staff, students, and MoEIA managers, so as to realise the government vision.

The main research question for this study is:

To what extent is the educational technology programme in higher education in Kuwait effective in matching the government's vision?

This question is segmented into the following sub-research questions (SRQs):

SRQ1: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by students?

SRQ2: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by academic staff?

SRQ3: What are the perceptions of MoEIA managers about the educational technology programme graduates in higher education in Kuwait?

1.4 Overview of the thesis

Chapter 1 outlines the themes of the thesis and highlights research objectives and questions.

Chapter 2 provides a contextual overview, analysing the context of the study in relation to Kuwaiti higher education, digital technology, the Kuwait 2035 vision, and the job market.

Chapter 3, the literature review, is divided into a series of sections discussing: the underpinning theoretical frameworks (i.e., social constructivist and TPACK), educational technology content and pedagogy, pedagogy requirements, technology requirements, and resource requirements.

Chapter 4, the research design and methodology chapter, discusses the choice of research philosophy and strategy (namely, the interpretivism and case study approach) and explains the rationale for this choice. It describes the data collection process, which consisted of interviews, focus groups and discussions,

and then the adaptation of the data to the current study context; this is followed by further discussion, validation, reliability checking and consideration of ethical issues.

Chapter 5, the results chapter, focuses on the participants' contributions and the emerging themes from the data. The chapter highlights the perceptions of students and academic staff in relation to the pedagogy, technologies and resources that should be implemented for an effective educational technology programme. In addition, this chapter highlights the perceptions of MoEIA managers regarding educational technology programme graduates.

Chapter 6 discusses the results presented in Chapter 5, based on the underlying theoretical frameworks and related literature.

Chapter 7 outlines the study's conclusions, highlighting its original contributions to knowledge and discussing its limitations. It also presents recommendations for enhancing the effectiveness of the programme and for future studies.

Chapter 2: Context of the study

2.1 Introduction

This chapter describes the context of the present study, Section 2.2 focuses on the Kuwaiti higher education system, Section 2.3 focuses on Kuwait's Vision 2035 and higher education issues, Section 2.4 discusses the context of the college that participated in the study, Section 2.5 discusses the educational technology programme, Section 2.6 focuses on educational technology provisions and the Kuwaiti job market, and Section 2.7 provides a concluding summary.

2.2 Kuwaiti higher education

The primary objective of education in the State of Kuwait is to develop dependable and active members of the society (Burki, 2010). According to Articles 40 and 41 of the constitution, education for citizens is obligatory for a certain number of years, and it is free of charge from kindergarten through university level; in addition, the government is responsible for offering employment opportunities to Kuwaiti citizens (Constitution-of-Kuwait, 1962).

Higher education is under the supervision of the Ministry of Higher Education (MoHE, 2008) and is offered by Kuwait University, the Public Authority for Applied Education and Training (PAAET) and several private universities (Altamimi, 2006).

In recent years, a number of private higher education colleges and universities have been established and approved by the MoHE (Al-Atiqi & Alharbi, 2009). These include Gulf University for Science and Technology (GUST), Australian

College of Kuwait (ACK), Arab Open University and others; still, the government relies more on the graduates of governmental higher education than those of private higher education. Thus, the focus of this research will be only on the graduates of a governmental higher education institution, specifically an educational technology programme.

2.2.1 Kuwait University

In October 1966, five years after Kuwait became an independent state, Kuwait University was established under Act number 29/1966. The main aim of Kuwait University is to maintain educational standards by delivering the highest level of teaching, advancing knowledge, encouraging creativity, improving higher education, guaranteeing continuous development of its teaching programmes, increasing interaction with the public through continuing educational programmes, and providing the country with human resources who have scientific training and practical qualifications in various branches of learning (Kuwait-University-Centre-of-Information-Systems, 2018). Kuwait University seeks to provide a world-class education; as such, it is committed to advancing, preserving and disseminating knowledge, in addition to preparing educated, enlightened and qualified human resources who will contribute to the developmental needs of the society (Kuwait-University, 2018).

At the time of its establishment, the university consisted of two colleges: the College of Science and Arts and Education, and the College for Women. In April 1967, the Emir of Kuwait issued a decree establishing two more colleges: the College of Law and Sharia, and the College of Commerce, Economy and Political Sciences. Today, the university consists of 16 colleges and various general services and work centres to support the colleges in educational and

administrative affairs. The university awards bachelor's, master's and PhD degrees. The current enrolment is 36,704 students, of which 85% are Kuwaiti nationals (Academia, 2018).

2.2.2 Public Authority for Applied Education and Training (PAAET)

PAAET, the awarding body for the students who participated in this study, was established in 1982 by law number 63 (Al-Atiqi & Alharbi, 2009). It is an autonomous educational body that supervises technical and vocational training (Altamimi, 2006). PAAET's main aim is to prepare students for the national workforce and to ensure that the human resource needs of the state are met; some of these institutes were founded independently in the 1950s and 1960s to provide the workforce needed for the oil industry. It mainly grants diplomas, although it also offers a few bachelor's degree programmes. PAAET consists of 13 colleges and institutes as well as several general services and work centres. Eventually, the country found it necessary to establish a central entity to monitor and supervise the activities of these institutes, and this became PAAET.

Bachelor's degrees are awarded by the Colleges of Basic Education, Health Sciences and Nursing. Diplomas are awarded by the College of Technological Studies; the College of Business Studies; the Higher Institute of Telecommunication and Navigation; the Higher Institute of Energy; the Secretary and Office Administration Institute; the Tourism, Beautification and Fashion Institute; the Industrial Training Institute; the Construction Training Institute and the Nursing Institute.

The number of students currently enrolled at PAAET is approximately 58,345, of which 86% are Kuwaiti nationals (Central-Statistical-Bureau, 2017).

2.3 Kuwait 2035 and higher education issues

2.3.1 Kuwait 2035

The Kuwait 2035 vision is to transform Kuwait into a contemporary financial and trade centre, which requires an overhaul of its approaches to labour (Al-Atiqi & Alharbi, 2009). In demonstrating the general vision and asking the government to pay attention to improving its work culture, the current Emir, Sheikh Sabah Al-Sabah, asserted the need to develop the governmental work within the public sector in order to achieve the ambition of turning Kuwait into a financial and trading hub (Al-Diwan Al-Amiri, 2018). The Emir ordered the Kuwaiti government to achieve this vision, while also highlighting necessary improvements in the government's way of working, since these will be required to accomplish the objectives. To implement this vision by 2035, the government has allocated approximately 6.6 billion USD and taken a set of preparatory actions, as detailed in the following paragraphs (KUNA, 2015).

Regarding infrastructure, finance and trade, the government initiated the Kuwait 2035 vision by launching the Mubarak Al Kabeer Port mega project, which the Emir inaugurated in 2011 on the northern island of Boubyan (KUNA, 2011). The project aims to open up Kuwait's economy by offering duty-free status for international companies (Alanba, 2012). Certain facilities will be made available to international and domestic companies seeking to open branches in Kuwait, with the aim of attracting more companies and transforming Kuwait into an active economic and financial hub within the region.

Education and technology are two important components of the Kuwait 2035 vision, in preparation for the 21st century. The vision asserts that education and

technology have the potential to support the Kuwaiti workforce to gain contemporary knowledge and skills (Al-Diwan Al-Amiri, 2018). The Emir considers higher education students to be the backbone of the project to achieve this vision; therefore, he has issued a direct call to review higher education programmes to ensure that when students graduate, they possess the skills necessary to be productive members of the workforce (Al-Diwan Al-Amiri, 2018).

The MoHE (2008) has translated this vision into a number of objectives for meeting 21st-century requirements, such as increasing the quality of education, implementing educational technology, and bridging the gap between the international and national contexts (MoHE, 2008). The various directives that have been issued by the Kuwaiti government make clear that Kuwaiti education has not yet reached the desired level (see Section 2.3.2), so it is important to identify the areas where additional focus is needed.

In order to become an active economic and trade hub, the country needs to upgrade its digital infrastructure. For this purpose, in 2006 the Kuwaiti government established the Central Agency for Information Technology (CAIT, 2017). This agency has a set of roles, one of which is to draw up the general technology policies for the country (CAIT, 2017). CAIT and the government have been working with the National Assembly to issue legislation on information technology in governmental organisations, and Act 20/2014 was approved for this purpose in 2014 (CAIT, 2017). This legislation dealt with the use of digital technology for formal transactions, communications and/or contracts in all government organisations. In 2015, the government issued Act 68/2015, which authorised the use of all digital software and applications in the State of Kuwait. Both acts reflected the government's switch from physical to electronic

paperwork and correspondence, which began officially on 1 January 2017 (KUNA, 2016). Even so, in most cases, face-to-face teaching is the only official form of teaching in Kuwait (Al-Fadhli, 2008; Ghaith, 2013).

Another role of CAIT is to coordinate with all government ministries in supervising the design and implementation of the Kuwait Government Online portal (CAIT, 2017), a website through which one can access all available government services, including those of the MoEIA (MoEIA, 2017). This is a clear sign that the nature of government work is evolving towards more advanced technology, in accordance with the objectives of the 2035 vision, even if higher education does not appear to be doing so. The MoEIA, however, is one of the ministries implementing this change. This is important because CAIT also endeavours to increase the technological skills of the Kuwaiti workforce (approximately 300,000 employees and students) across all sectors (Alanba, 2008; CAIT, 2017). It has been found that the Kuwaitis in the workforce, including information science students at Kuwait University, have a skills gaps in this area (Burki, 2010). The MoHE commissioned a set of digital projects in cooperation with CAIT, but most of them were concerned with basic education rather than higher education – such as the MoE's applied Flash Memory project and the Tablet projects (Alanba, 2016). The Flash Memory project was criticised by educators because there was no proper training for teachers and students, and there were numerous technical issues as well (Alanba, 2016).

As discussed above, CAIT has made many contributions towards achieving the technological objectives of the Kuwait 2035 vision, including paving the way for legislation encouraging electronic communication in the government, implementing the Kuwait Government Online portal and supporting the Kuwaiti

workforce in developing their technology skills. The demands of the job market, as evidenced by these roles and projects, will soon require new levels of knowledge and skills (e.g., digital technology skills and higher levels of thinking) to fulfil the vision. Despite the advances made by CAIT, higher education does not seem to be taking steps to advance the knowledge and use of IT. As such, an important contribution of the present study is that it explores the sorts of challenges faced by the educational technology programme in enhancing digital skills and training its graduates in this regard; this study attempts to explore the implications of this situation and to make recommendations for improvements.

Fitzgerald and McLaren (2006) stated that 'the match between employer demand for skilled labour and the labour supply is one of the most critical factors concerning growth of the national economy'. As the nature of jobs continues to change, the level of education and skills also requires changes (Murnane, Willett, & Levy, 1995). Many studies have confirmed that Kuwaiti higher education has major issues in terms of preparing students to match job market expectations (Al-Daihani, 2011; Al-Rashed, 2012; Albadir, 2014; Alharbi, 2016; Burki, 2010). This is due to many political and educational issues, as discussed in the following subsection.

2.3.2 Higher education challenges

The Kuwaiti higher education is faced with a variety of issues, among them political issues. The decisions of MoHE are always subject to intense scrutiny in the form of questioning by elected members of the National Assembly, who offer their input and try to influence policy (Ayoub, 2012; MoHE, 2015). Although most politicians are not experts in education, they do not hesitate to intervene in educational issues (MoHE, 2015). In order to placate certain politicians and

reduce tensions, the government often resorts to changing the Minister of Education instead of implementing a clear plan for educational reforms. In effect, what happens is that the new minister arrives with a plan, but he or she is not given adequate time to see it through (Ayoub, 2012).

The Kuwaiti education system has also suffered from crises in both curriculum development and teacher preparation, and these have affected programme graduates. Although the government has invested a considerable amount of money in higher education, graduates are still seen as weak (Ayoub, 2012). Indeed, many studies have confirmed that Kuwaiti higher education students have a poor awareness of their specialist subjects (e.g. information science and accounting) because the current teaching methods are ineffective. Students possess basic skills, but they have few online or navigational skills (Alharbi, 2016; Al-Rashed, 2012; Albadir, 2014;Burki, 2010). Many researchers have pointed to the mismatch between what higher educational institutions are supplying and what the job market demands, in terms of quality (Al-Rashed, 2012; Albadir, 2014; Burki, 2010; MoHE, 2015).

There are several reasons why Kuwait's higher educational institutions may be less robust than those in other countries. One reason may be the pressure to admit more students than the higher education institutions have capacity for (MoHE, 2015). Every summer, members of the National Assembly, along with members of the public, place the MoHE and the higher education colleges under intense pressure to accept more students and to maximise their numbers. The politicians exert pressure on the MoHE from within the National Assembly, while outside pressure comes from newspaper articles and interviews, social media posts, and TV talk shows. The National Assembly members usually assert that

Kuwaiti citizens have a constitutional right to a free education (Alqabas, 2016; Constitution-of-Kuwait, 1962). As a result, during the 2015/2016 academic year, PAAET was reported to have accepted more than three times its capacity (Alqabas, 2016).

A second issue for higher education is the limited funding available. Despite their demands to have more students enrolled, the National Assembly has not always approved the supplemental funding needed for additional modules to accommodate the extra students. When the higher education institutions accept too many students, they face problems such as increased class sizes and a shortage of academic staff. In the summer of 2015, government officials agreed to hire additional academic staff to offer extra modules, but then a lack of cooperation (and even conflict) between politicians and academic professionals had a negative impact on the entire educational process in the institutions.

Another challenge is that although college deans deal directly with academic staff and students, their authority is limited. The higher education system in Kuwait is based on a centralised structure, so any change to a procedure or policy must first be approved by the board of the relevant institution, and some decrees or decisions may need the approval of the Minister of Higher Education as well. Given this situation, deans are unable to fully lead their colleges.

Higher education institutions currently use physical letters for communications because electronic correspondence is not yet in full use. It is worth noting that one institution may have its administration buildings and other colleges spread out in different locations, so they recruit delegates to shuttle between different buildings to pick up and deliver correspondence, even though the government has stipulated that all ministries and higher education institutions must begin

using the government's new online communication system from 1 January 2017 (KUNA, 2016). Notwithstanding this stipulation, it seems that the government is not focusing on the educational sector in this regard, since educational institutions were not included in the list of institutions whose use of the new system was to be inspected.

The present study seeks to listen to and understand the perspectives of academic staff and students regarding the effectiveness of the educational technology programme and their suggestions for how it can be developed further.

Rehman (2008) argued that the emerging global competition within Kuwait's labour market requires fresh competencies. This, of course, puts new pressures on higher educational institutions, whose responsibility it is to produce such professionals, implying therefore a need for intensive curriculum changes. According to this view, curricula should be designed with reference to market expectations (Rehman, 2003). However, according to Reid and Barrington (1997), education refers to 'the activities that aim to develop the knowledge, skills, moral values, and understanding required in all aspects of life rather than knowledge and skills relating to only a limited field of activity' (p. 47). A sizeable number of university professors in Kuwait have come out in support of this perspective – that the main objective of educational institutions is to enrich knowledge and learning, rather than merely satisfying market expectations. Each view has its proponents, but in reality, both are interrelated, with each one having a considerable effect on the other (Branine, 2008). In fact, most Kuwaiti employers feel compelled to provide training courses for new graduates because they arrive with a lack of knowledge and skills, and this is a substantial expense

(Alessa, 2017). However, to the best of the researcher's knowledge, there have thus far been no works in the literature on educational technology programmes and the Kuwaiti job market in light of 'Kuwait 2035'.

2.4 The college that participated in the study

The research was conducted on an educational technology programme[1] within a higher education college where there is gender-segregated education; thus, there are two separate campuses for men and women. While it has been common in Kuwait for male academic staff to teach female students, female academic staff are not permitted to teach male students. In recent years, however, there have been changes in Kuwaiti culture regarding gender-segregated education. The National Assembly recently debated whether to adopt mixed-gender education, following requests from several student unions (Basyoni, 2015; Nayf, 2013). The college has 19 programmes and centres, for the arts, sciences, education, linguistics, administration, student affairs, educational technology and other programmes.

2.5 The educational technology programme

The educational technology programme, established in the 1980s, was chosen as the subject of this study because it has played a fundamental role in the Kuwaiti job market by supplying a significant portion of the workforce. Since it supplies workers in every field in Kuwait, it is of fundamental importance to the education sector. According to the Educational Technology Department (2015), this programme allows graduates to find work within a variety of ministries across

[1] Identifying details have been changed.

the country, in educational, media, administrative and digital technology positions. Students earn a bachelor's degree after four years of study.

The construction and content of the curriculum have not been reviewed since the 1980s. Manual photo developing techniques, chemical products and long lectures continue to be standard, although academic staff and students are now able to create higher quality products using digital finishing techniques. The use of manual design techniques, transparent slides and manual frame slides continues, even though digital tools would allow academic staff and students to design, create and print transparent slides of a higher quality in less time.

The students enrolled in the programme must complete 21 required modules, which are worth 65 of the 130 credits required to graduate. Some of these modules have prerequisites; for example, several of them require the 'Introduction' (Course Number 112) as a prerequisite. The remaining 65 credits are earned through elective courses covering subjects such as Arabic language, English language, History and general culture.

The college policy states that students must pass each module with a minimum grade of 60 out of 100. At the end of each term, they must sit a paper-based exam, which is worth 50 marks out of the total 100 points.

According to the college policy, lecturing is the only acceptable teaching method in the programme, and face-to-face communication is the only acceptable means of communication. No other teaching methods exist, whether technology-based or employing a blended learning format. Although the programme should function as a pioneer in introducing technology solutions to Kuwaiti educational settings, in order to prepare future graduates, it continues to apply traditional

teaching methods. The duration of lectures is two hours for theory modules and four hours for technology/practical modules. There are two computer laboratories on each campus (one each for males and females), each of which has 25 computers. According to the policy, academic staff must schedule office hours, outside of lecture times, during which they make themselves available to students with questions or concerns. Typically, the instructor's office is designated for this purpose, but a complication arises if an instructor teaches on both the male and female campuses, because the college usually only provides one office for each member of the staff.

It can be concluded that there is no integration of technology in the teaching and learning in the programme. Blended learning would be a good solution for the programme, as will be discussed later on (Section 3.3.4).

2.6 Educational technology graduates and the Kuwaiti job market

Producing a well-qualified ICT national workforce is a shared aim across most higher education sectors around the world (Alessa, 2017). Indeed, the Kuwaiti higher education sector aims to meet the demands of the Kuwaiti job market, which is divided into two main sectors: private and public. The public sector is made up of 57 ministries and organisations, including the MoEIA, which are under government supervision. The private sector comprises other profit-making companies (Biygautane, Hodge, & Gerber, 2018). This section will confine itself to the MoEIA and the educational technology programme, since it aims to explore the extent to which the graduates of that programme meet the expectations of the MoEIA.

The MoEIA was first established as a department in 1921, and it existed in that form until 1962, when the Emir decreed that it become a separate ministry (MoEIA, 2017). This ministry, one of the main employers of graduates of the educational technology programme, has several different departments, each of which recruits graduates of the programme.

One of these departments supervises after-school clubs targeting children aged seven to 14 years. The clubs run from 4:00 pm to 7:00 pm, three days a week. They are gender-segregated and strive to create a promising future for children from an early age, to benefit the children and the society at large (MoEIA, 2017). The boys and girls mainly engage in fun and creative activities such as physical education and arts. This department recruits educational technology programme graduates; in fact, there is at least one educational technologist in each club. The role of technology within the clubs is determined by the teachers, who determine which technologies are most suitable for each lesson.

The media department is another MoEIA department that recruits educational technology programme graduates. Specialists working in this sector are responsible for carrying out the government's goals related to societal and global issues by designing, implementing and developing media (MoEIA, 2017). The media sector launches campaigns to increase awareness among the Kuwaiti people (MoEIA, 2017). The campaigns include a set of planned events to achieve certain goals, covering a variety of digital platforms, such as YouTube and Twitter. These events range from organising lectures in malls and shopping centres to providing experts for interviews and discussions on Kuwaiti TV and radio programmes, and at college and school campuses. The media sector also creates nasheeds, or 'singing poems', each of which has a specific goal and

message to deliver to its audience. Popular examples include Arabic songs whose titles may be translated as ‘Oh Kuwait’, ‘Relax Your Heart’, ‘Dearest Country’, and ‘Imagine’ (MoEIA, 2017). Nasheeds are popular with young people in Kuwait, so projects using nasheeds typically target the youth. They are published in video and audio formats, so media software is required to create the content; thus, graduates of the educational technology programme are needed. The sector’s media projects are presented to the public through many platforms, including social media accounts as well as newspapers, TV and radio stations.

Alw’ai magazine is published by another MoEIA department that employs graduates of the educational technology programme. The magazine has been in circulation since the 1950s, and its content targets not only Kuwaiti society but the whole Arab world. The staff are responsible for its entire production process, apart from printing, which is outsourced. The magazine is published in both print and online formats. Since its inception, the magazine has developed other avenues for distribution, also offering versions for children and young people.

Information Systems is another MoEIA department that employs graduates of the educational technology programme. This department maintains the ministry’s official website, in addition to administrative and financial systems (MoEIA, 2017). Most of the sectors and administrative branches of the MoEIA are linked to the official website, except *Alw’ai* magazine, whose official website is presented in three languages: Arabic, English and French. Other department websites are only presented in Arabic. Each department has its own social media accounts, mainly on Twitter and Instagram.

The MoEIA is proud of the digital technology projects it has completed. Since 1965, it has exclusively produced the *Encyclopaedia of Islamic Law*, which is

updated periodically by a group of legal scholars (MoEIA, 2017). The encyclopaedia comprises 45 large volumes, which are presented free of charge to all researchers, to assist them in their work. Because there is strong demand for the Encyclopaedia, with hundreds of requests for copies, the ministry recently made an electronic version available online (MoEIA, 2017).

All the above-mentioned projects and activities require good teamwork skills because their nature, and their activities, involve differentiated roles and tasks. In the context of the media sector, for example, separate teams were established to achieve the aims of the campaign: preparation, development, marketing and public relations. Each team is assigned a set of roles, with tasks and deadlines, according to the campaign plan.

To equip students with the knowledge and skills necessary to gain employment with the MoEIA, the educational technology programme offers a set of module packages. One of these packages is related to media, and it consists of TV modules, sound (radio) modules and print photography modules. There is also a computer modules package, consisting of hardware and software, with modules titled ‘Computer I’ and ‘Computer II’. This package also offers a set of software modules, such as one covering Microsoft Office Word and PowerPoint. Other modules include design, device technology, design boards, educational drawing, and resource management. Through these modules, students are expected to learn strategies for module design and implementation, become familiar with the technology and learn how to manage a resource centre.

2.7 Summary

Kuwait University and PAAET are two public higher education entities in Kuwait. A recent set of studies highlighted that Kuwaiti higher education is suffering from several serious shortcomings, which include its reliance on outdated content, the fact that the curricula are based more on theory than practical application, and the fact that students often lack the requisite educational technology skills, causing them to fall short of the requirements of the job market.

The higher education sector faces many issues, including pressure exerted by politicians on the Minister of Higher Education, who then relays this pressure to the higher education institutions themselves. The Kuwaiti education system also suffers from crises in both curricula development and teacher preparation, and this has negative effects on its graduates. Although the government has invested a considerable amount of money in the sector, graduates remain weak.

The educational technology programme has a major role to play within the Kuwaiti job market, as it supplies graduates to various public and private entities. One such entity is the MoEIA, which requires graduates of this programme in order to achieve the government vision.

The Kuwait 2035 vision aims to transform the nation into an economic and trading hub. The vision includes objectives for education and technology, which the government has stepped forward to meet. CAIT was established to pave the way for technological applications throughout the government's ministries and organisations. Legislation regarding the use of digital technology has been issued, and a set of technological projects have also been implemented. One of the strongest steps made towards achieving the vision was the mandate for all

government ministries and organisations to use online communication methods starting from 1 January 2017. The Kuwaiti government has implemented a set of projects relating to basic education but not to higher education, although it has outlined a precise vision regarding expansion of the sector.

Chapter 3: Literature review

3.1 Introduction

This chapter reviews and analyses the existing literature in relation to the themes investigated by this study. As has been explained, this study explores the perceptions of academic staff and students of educational technology programmes, as well as those of managers at the MoEIA (one of the main recipients of graduates of programmes), in order to enhance the effectiveness of such programmes in terms of meeting the government's Vision 2035.

Section 3.2 discusses theoretical frameworks in higher education, such as social constructivist; substitution, augmentation, modification and redefinition (SAMR); replace, amplify and transform (RAT); and the TPACK model. The theoretical frameworks underpinning this study were social constructivist and TPACK. Section 3.3 discusses the definition of educational technology, its content, its modes of delivery, and factors that influence the successful integration of technology in higher education. Section 3.4 discusses the integration of ICT in higher education, Section 3.5 discusses studies on educational technology in the Kuwaiti context, and Section 3.6 provides a summary.

3.2 The theoretical framework underpinning this thesis

As philosophers of science have often stressed, the theoretical framework is an essential element in directing observation and research. Chalmers (1976) noted, 'Precise, clearly formulated theories are a prerequisite for precise observation statements' (p. 27). Frameworks are an important prerequisite for formulating research questions, in addition to determining the kind of data collected, the procedure to be used for gathering this data, and the methodology to be employed

in evaluating and interpreting it. As such, it is crucial to understand the perception of different Kuwaiti users towards the integration of ICT in higher education.

Over the past four decades, numerous theoretical models have been developed, and four of them are reviewed in this study: social constructivist, SAMR, RAT and TPACK.

The theories that underpin the current study are socio-constructivism and TPACK, combined as a unified framework. The following paragraphs explain the rationale for choosing these specific theories.

3.2.1 Social constructivism

This study draws on social constructivist theory, which was selected because of its consistency with educational technology teaching and learning (Holmes & Gardner, 2006; Spector, Merrill, Elen, & Bishop, 2014). It is worth noting that social constructivism is a popular approach for Kuwaiti researchers in the field of technology teaching and research (Al-Fadhli, 2008; Ghaith, 2013).

Lev Vygotsky, one of the key figures in social constructivist theory, carried out a great deal of research on social constructivism but died in 1934, at the age of 38, before he could complete his plans. After his death, many of his followers developed his ideas by adding various concepts to his thinking, such as ‘scaffolding’, which was advanced by Wood, Bruner and Ross (1976). Compared to Piaget, Vygotsky (1978) placed more focus on the cognitive and ‘sociocultural’ aspects of knowledge construction that occur after a student engages in dialogue, conversations and collaboration with classmates and academic staff.

Social constructivism assumes that to foster cognitive development, knowledge should first be constructed in a sociocultural context in which students and

academic staff members interact in relation to the module topic. Students are active players in their education, and thus, academic staff facilitate learning by preparing a learning environment for them rather than dictating their learning (Schunk, 2012). Social constructivism suggests that learning should be situated in a social context that allows students to construct their own knowledge via dialogue and conversation (Driscoll, 2000; Schunk, 2012), engaging in authentic learning activities that match real-world circumstances.

Vygotsky believed that learning is a continuous process, progressing from lower to higher cognitive levels, and that a crucial factor in this process is social interaction. The ‘zone of proximal development’, a Vygotskyan term, refers to the gap between a student’s ability to complete a potential task with the help of another person (such as a classmate or tutor) and his or her ability to complete it independently (Vygotsky, 1978). If students cannot handle the work alone, they can discuss and negotiate a potential task with academic staff or other students to overcome the challenges they face.

Building upon Vygotsky’s thinking, followers such as Wood et al. (1976) developed the concept of ‘scaffolding’ (Schunk, 2012), which involves helping students who are having difficulty with a specific task by offering the appropriate level of assistance (Wood et al., 1976). Such assistance comes from others (perhaps academic staff, classmates, or experts) who have greater knowledge of the task than the student does. The present study seeks to understand the interaction between technology and users, and how their interaction and learning are shaped (Biggs, 2014; Schunk, 2012; Vygotsky, 1978), in order to:

- Inform and guide this study in understanding how it scaffolds the learning and how social and cultural priorities shape the use of technology.

- Inform the choice to employ a qualitative data collection approach in order to understand the perceptions of the three groups of participants (academic staff, students, and managers at MoEIA). This will be discussed in more detail in Chapter 4.
- Understand the contexts in which ICT is used in teaching and learning by academic staff and their students.
- Understand the mode of interactions and communication between academic staff and students.

3.2.2 The RAT model

The RAT model addresses the role of digital technologies in teaching and learning practices by determining whether technology **R**eplaces previous practice, **A**mplifies current practice, or **T**ransforms practice into something new. The main focus of RAT is on how technologies (regardless of whether they are digital or traditional) fulfil specific features and tasks, as opposed to placing an emphasis on which technologies are being used (Hughes, Thomas, & Scharber, 2006). Figure 3.1 illustrates the different categories within the model.

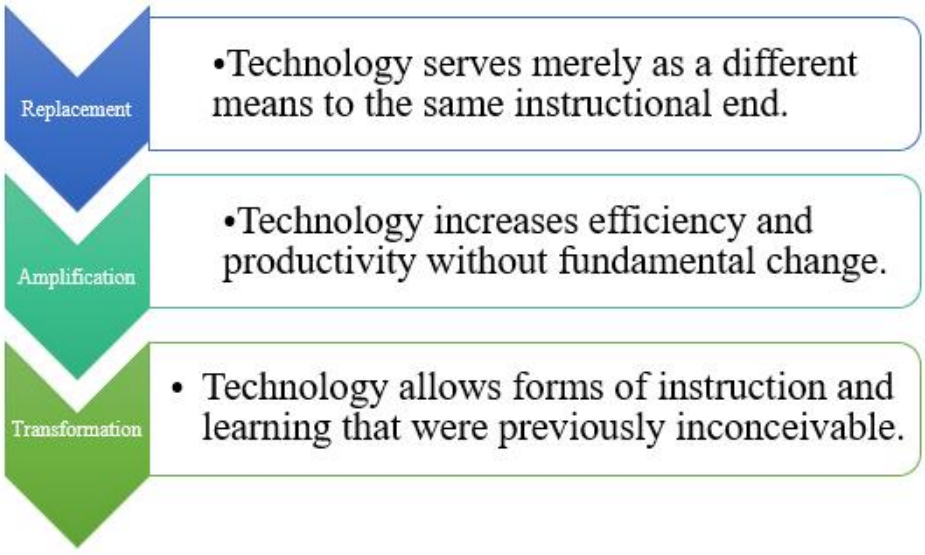

Figure 3-1 RAT model

Technology as replacement refers to cases where technology only offers another means to the same educational end. The implication of this definition is that technology must not explicitly cause any change to the students' learning process, the established instructional practices, or the content goals (Hughes et al., 2006).

3.2.3 The SAMR model

The SAMR model was developed by Puentedura (2010) to describe the progression and level of technology adopted in the teaching framework. The model consists of two broad categories, enhancement and transformation, each of which can be broken down further into two subcategories (Figure 3.2).

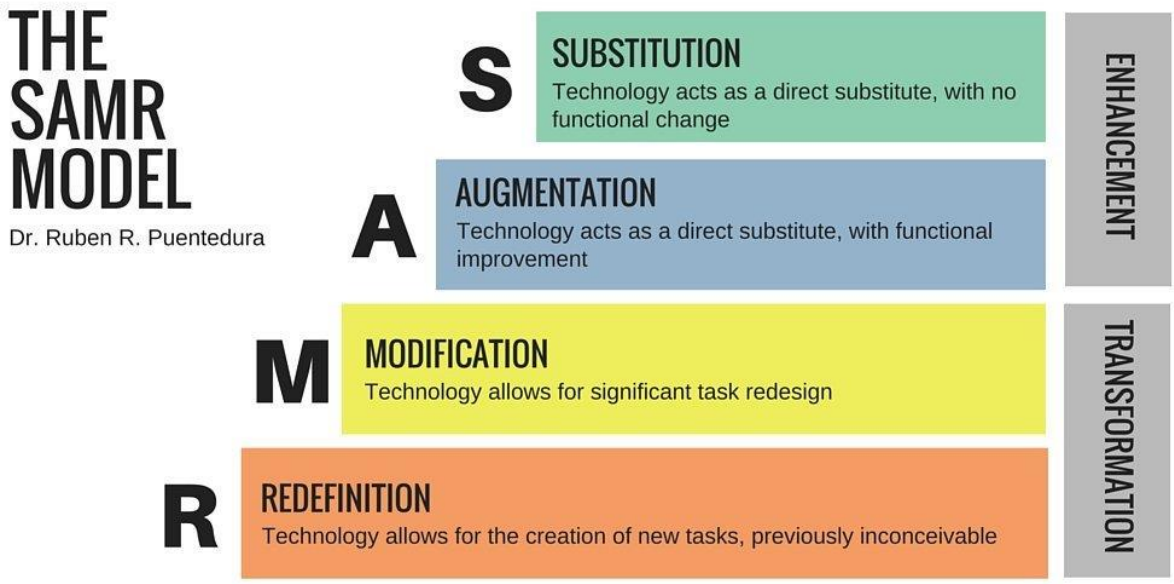

Figure 3-2 SAMR hierarchy (Lefflerd, 2016; Puentedura, 2010)

The lowest degree of adaptation is enhancement via substitution. Substitution is said to take place when technology acts as a direct replacement for a task, for example, when students had been using printed copies for reading or writing tasks, but they then substitute digital versions, such as PDFs or word processing documents (Puentedura, 2014). It is important to note that since the task could already be achieved without the integration of technology, this level offers no

functional improvements or changes. On the other hand, if the same task (involving class reading material) is adapted at the augmentation level (the second subcategory within the enhancement category), functional improvements can begin to be seen. The Kindle e-reader is a popular example; it offers many features to enhance the reading process, such as bookmarking passages, selecting and defining words quickly, and altering font size – which can be beneficial in a classroom of students with varying needs in terms of reading comprehension and letter visibility. Thus, using technology such as a Kindle adds functional improvements to the reading process which were not previously possible (Swanson, 2014).

This researcher opted not to consider either one of the previous two models (SAMR and RAT) as a theoretical basis because of their inability to adapt to the context of this study. Taking into consideration the time limitations of this research, neither the RAT nor the SAMR models would have been ideal since they would involve spending time with conventional practices of technology, without fundamental or functional change. Also, their application requires an empirical approach that does not fit the qualitative tool of interviews specifically directed towards internal and external stakeholders.

3.2.4 The TPACK framework

For this study, TPACK was selected as a framework for understanding the views of students and academic staff on the use of technology in higher education in Kuwait. This framework guides both the data collection and data analysis process, helping the researcher to understand the processes of teaching and learning through ICT. TPACK suggests that content, pedagogy and technology play unique and interactive roles in the teaching and learning process.

Niess (2011) mentions a TPACK model that is an integrated amalgam of three kinds of knowledge: content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK), which includes the rudimentary aspects of technology and how it can be implemented practically in teaching. In Figure 3-3, which summarises the TPACK elements as a framework for this study, TCK can be seen as the point where technological and content knowledge meet. In this regard, Mishra and Koehler (2006) stated that 'teachers need to know not just the subject matter they teach but also the manner in which the subject matter can be changed by the application of technology' (p. 1028). Furthermore, they explained that 'technological pedagogical knowledge (TPK) is knowledge of the existence, components, and capabilities of various technologies as they are used in teaching and learning settings, and conversely, knowing how teaching might change as the result of using particular technologies' (p. 1028). Thus, TPK can also be viewed as the intersection of technological and pedagogical knowledge. In particular, this model addresses questions similar to those posed by this study in terms of the strengths and challenges associated with the TPACK elements.

Hughes and Scharber (2008) and Grandgenett (2008) brought attention to the fact that the significance and intricacies of integrating technology in the classroom can be elucidated and explained by TPACK; it is a framework that aids our understanding and helps us examine the role of technology in the classroom. As a framework, TPACK is a relevant approach for exploring the aims of this study, which are to investigate, understand and explain the use of ICT by academic staff and students in higher education in Kuwait. This framework also aids the researcher in evaluating the views and perceptions of academic staff and students with regard to ICT in higher education in Kuwait. It offers analytic tools that help when studying teaching and learning through digital technology, along with the

challenges that might arise in these processes (Heinich, Molenda, Russell, & Smaldino, 1999; Jang & Chang, 2016; Luik, Taimalu, & Suviste, 2018). Angeli and Valanides (2013) argued that the development of TPACK should be studied with a thorough reflection on the contexts of the learning environments, the experiences of individual academic staff members, the beliefs of academic staff members about teaching and learning, and the experiences and views of students. The study reported that TPACK helped the academic staff to envision how their technology knowledge could work together with their subject knowledge to ensure effective teaching and learning, as demonstrated in Figure 3-3. The current study uses the TPACK framework to help the academic staff members to reflect on their teaching experiences and how they use digital technology (Section 5.4).

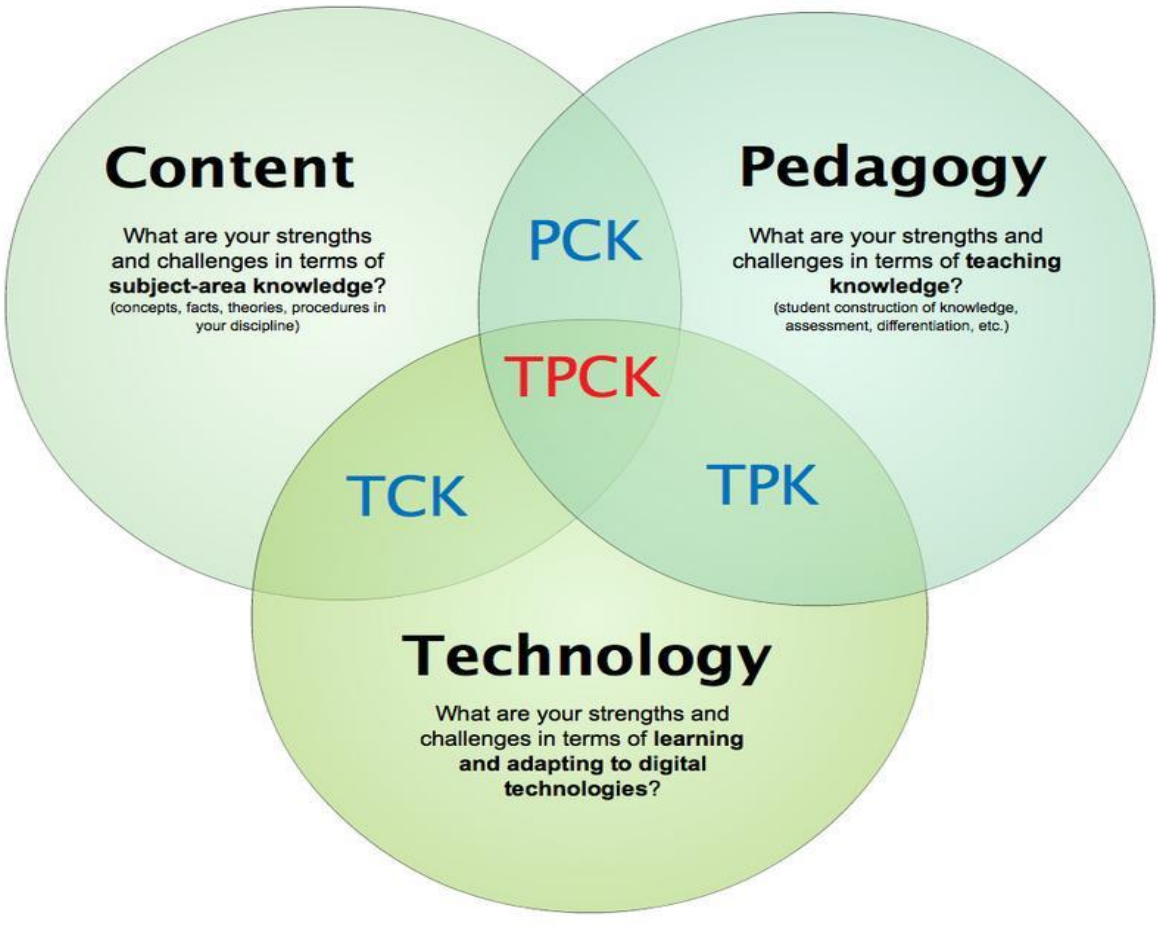

Figure 3-3 TPACK model (Miller, 2015)

In the last decade, there has been extensive research and numerous publications in the area of TPACK. Some of these studies focused on pre-service teachers (Chai, Koh, Ho, & Tsai, 2012; Luik et al., 2018), while others focused on academic staff members (Kirikcilar & Yildiz, 2018; Tondeur et al., 2014). In addition, there were some studies on the development of TPACK among academic staff members or pre-service academic staff members (Doering, Veletsianos, Scharber, & Miller, 2009; Jaipal-Jamani et al., 2018). There are also studies on how academic staff members perceive the factors that influence the integration of ICT (Drent & Meelissen, 2008; Ertmer, 1999; Koh, Chai, Benjamin, & Hong, 2015; Lim & Chai, 2008). Only a few studies have investigated the integration of technology in higher education, though (Benson & Ward, 2013; Hammett & Phillips, 2014; Jang & Chang, 2016; Lye, 2013; Maor, 2013; Reyes, Reading, Doyle, & Gregory, 2017); these studies are discussed in the next few paragraphs.

Reyes et al. (2017) investigated the views of Australian regional university academic staff members on the impact of TPACK in their teaching practices, and they discovered various gaps between the knowledge and practice of integrating ICT content and teaching. In other words, there was inconsistency between how academic staff members used ICT themselves and how they taught about ICT. This is one of the points examined by the current study (Chapter 6). The Australian study also found that the available programme, 'Teaching Academic Staff for the Future (TTF)', did not promote TPACK and in turn did not help to prepare the educators of the 21st century.

In Malaysia, Lye (2013) investigated the views of academic staff members regarding the opportunities and challenges faced by higher education institutions that implemented the TPACK model in their teaching and learning processes. He

identified three advantages of using ICT: it increases the engagement rate, encourages teamwork and provides a convenient time for teaching and learning. However, the academic staff members in the study found integrating ICT to be a challenge because of the overwhelming time limitations in regard to developing media content, their heavy teaching loads, and the poor technical provisions and facilities. Lye's study recommended that to improve the integration of ICT in higher education, the academic staff members needed to improve their technology knowledge, content knowledge and pedagogical knowledge. Likewise, the current study stresses the importance of pedagogy in implementing technology effectively, and this is why TPACK was used to collect and analyse the data. Similarly, Maor (2013) used the TPACK model in e-learning courses to develop students' skills as reflective learners and to use technology to create knowledge collaboratively. Her study employed different technological tools, such as iPads and ePortfolio, together with digital pedagogies that were facilitated through collaboration and peer learning. The study reported that students adopted digital pedagogies and implemented them in their classrooms, that they were motivated to learn through the digital pedagogies, and that their classroom practices were improved by using the TPACK model. Using a digital pedagogies collaboration, Jaipal-Jamani et al. (2018) developed a TPACK-based professional learning design model (TPLDM) to improve the knowledge and skills of faculty members concerning teaching with technology (TPACK). Their study found that the TPLDM model helped faculty members to progress from being technology learners to becoming technology leaders.

In England, Hammett and Phillips (2014) investigated the experiences of instructors and students with technology integration at the Faculty of Education at Memorial University and local colleges. They found that many of the participants

were not comfortable using technology, were scared that they would use social media ineffectively, and felt isolated when learning about technologies. Their findings also indicated that most of the participants did not have a clear understanding of the pedagogy for technology. The current study uses TPACK to explore the views of students and their instructors towards teaching and learning, and the resources and pedagogy needed. When Jang and Chang (2016) investigated students and instructors in Taiwan to determine their perceptions of TPACK, they realised that the views of university instructors were different from those of university students. Benson and Ward (2013) examined the TPACK profiles of three professors to understand the interaction of their TPACK knowledge components. They concluded that pedagogical knowledge is a key requirement of the TPACK profile and that technological knowledge alone will not translate into the overlapping knowledge needed for the development of TPACK. In this respect, Schmidt and Gurbo (2008) argued that the integration of technology into classrooms, or the transition from face-to-face learning to online learning, is not simply a matter of having technology skills training. For these changes to take place successfully, educators need to have sufficient pedagogical knowledge to guide them in making appropriate pedagogical decisions regarding the use of technology in the classroom or in online learning.

Joo, Lim, and Kim (2016) investigated the relationships amongst Korean academic staff members in terms of TPACK, their perceptions of administration support for technology, techno stress and their intentions to use technology. The authors noted that TPACK and administration support were suggested by Koehler and Mishra (2009) as important factors influencing the intentions of teachers in regard to using technology in the classroom.

In Estonia, Luik et al. (2018) examined pre-service academic staff members to evaluate their perceived knowledge of the TPACK framework. The study reported that the staff lacked pedagogical knowledge but nevertheless believed that they could integrate technology into their teaching. The study also found that male perceptions of technology and content were more favourable than those of female participants. Similarly, Chai at al. (2012) studied the effectiveness of a Singaporean pre-service ICT course based on the TPACK framework; they also explored the relationships between 1) the perceptions of Singaporean pre-service academic staff members in terms of TPACK, and 2) their perceived ability to integrate cyber wellness knowledge into their teaching practices. The results indicated that their level of confidence about integrating their ICT knowledge into their teaching had an effect on how they designed web-based learning programmes. Similar research on in-service academic staff explored the practices of new staff members regarding the integration of technology, in addition to how they had been prepared in their pre-service education programmes (Tondeur, Pareja Roblin, van Braak, Voogt, and Prestridge, 2017). That study reported that the new academic staff wanted to use technologies and valued them as important tools for teaching and learning, even though they did not feel that they were fully prepared to start integrating technology effectively. Doering et al. (2009) examined the influence of TPACK-based professional development on the metacognitive awareness of Social Studies academic staff members regarding the use of an online learning environment in their classrooms.

In the present study, the researcher combines the use of TPACK with social constructivism, which supports the idea that ICT must be studied within the learning environment in which it is situated. Therefore, TPACK and social

constructivism provide useful insights for articulating the study questions and structuring the study to achieve its aims and objectives.

This study is informed and guided by the social constructivism theory; it asks three groups of participants (i.e. stakeholders), namely academic staff, students and MoEIA managers, about their perceptions regarding the educational technology programme. In addition, the qualitative approach was chosen to understand the perceptions of the stakeholders. Using TPACK helped to keep the research questions focused on pedagogy, technology, and resources; specifically, it helped to examine the perceptions and operational knowledge of the academic staff through the lens of TPACK, and then to understand the types of changes they proposed, based on their educational technology teaching experiences.

3.3 Educational technology

Higher education is a vital aspect of people's lives; consequently, there are strong pressures from policymakers and the general public to increase its quality and its effectiveness. In reality, the benefits of technology in higher education have been exaggerated, and this has presented educational technologists with several challenges, one of which is that outside pressure can sometimes lead to the adoption of projects that do not reflect educational needs but are instead driven by technology only (Selwyn, 2011; Spector et al., 2014).

3.3.1 Definition of educational technology

This study aims to explore the significance of the provision of educational technology in preparing students to enter the workforce. It is thus necessary to first explore the concepts associated with educational technology.

It is important to note that there is no widely accepted definition of educational technology. The Association for Educational Communications and Technology (AECT) defines it as 'the study and ethical practice of facilitating, learning, and improving performance by creating, using, and managing appropriate technological process and resources' (Molenda & Januszewski, 2008, p. 1). It can also be defined as using technology for teaching, learning and training purposes (Spector et al., 2014).

The working definition adopted for this study is 'the design, implementation and evaluation of technologies (i.e. devices, software, hardware and resources) that boost creativity in universities and workplaces, enhance student and academic staff flexibility, and increase students' and graduates' knowledge, skills and critical thinking' (Educational Technology Department, 2015; Becker et al., 2017). This definition works best for this study because:

- It defines 'educational technology', which is the term used by the university department where the study was carried out.
- It encompasses both traditional and new technological applications that can be integrated in learning processes in research contexts, e.g. digital technology.
- It serves this study's objectives, since it covers both its settings and its audience.

Alongside the term 'educational technology', other terms used in this area include 'e-learning', 'digital learning' and 'information and communication technology' (ICT) (Beetham & Sharpe, 2007; Molenda & Januszewski, 2008; Moore, Dickson-Deane, & Galyen, 2011).

Moore et al. (2011) defined e-learning as the use of the Internet and interactive media for teaching and learning purposes, and Nichols (2003) explained that e-learning is any learning process which relies on the use of the Internet. Clark (2002) posited that using CDs and DVDs would be considered e-learning as well. ICT typically has a somewhat different definition, sometimes referring to 'the combination of networks, hardware and software as well as the means of communication, collaboration and engagement that enable the processing, management and exchange of data, information and knowledge' (DoE, 2011, p. 50). Selwyn (2004) contended that 'ICT is best seen as an umbrella term that includes computer hardware and software, digital broadcast and telecommunications technologies as well as electronic information repositories such as the World Wide Web or those found on CD-ROMs' (p. 346).

3.3.2 Educational technology content

Educational technology is a multidisciplinary subject. According to Spector et al. (2014), it encompasses education, psychology, communications, cognitive science and computer science. A similar view is that it refers to a set of learning theories, instructional design, computers, digital media, communication, social networks and educational video games (Reiser & Dempsey, 2012). Educational technology is a dynamic and ever-changing field, in part because technology becomes obsolete in a relatively short period of time. There may be competition between technology developers and educational technologists because they have different expertise and priorities; developers require educational technologists to come up with the best ways for them to use the technology within the educational context (Spector et al., 2014). In its annual review, the higher education version of the Horizon Report (2017) listed effective field trends for 2017–2021 (Becker et al., 2017); it examined and evaluated emerging technologies with potential for

effective use in education. It highlighted a set of trends that boost creativity in higher education, encourage students to think more critically about solutions by creating a relationship between their assignments and real-world problems, and increase blended learning opportunities, as these help enhance student and academic staff flexibility, ease of access and critical thinking (Becker et al., 2017).

However, the practice of educational technology and the quality of available computer hardware is not the same worldwide; it differs from country to country in terms of the level of expertise of educational technologists and how effectively their educational technology is used. It also differs as a result of economic circumstances and the extent to which decision-makers invest in educational technology (Spector et al., 2014). In Kuwait, the content for educational technology is supposed to match the needs of the job market and the goals of Vision 2035 (Al-Diwan Al-Amiri, 2018). Educational technology therefore plays a vital role in providing students with the knowledge and skills required for such purposes. For the purpose of this current study, educational technology content comprises teaching students how to use effectively digital devices, software and smartphone applications in order to support universities and workplaces in their numerous activities.

3.3.3 Modes of delivery for educational technology in higher education

This section reviews the literature related to distance learning, e-learning and blended learning.

Distance learning is defined as ‘arrangements for providing instructions through print or electronic communications media to persons engaged in planned learning in a place or time different from that of the instructor or instructors’ (Moore, 1990, p. xv). Guilar and Loring (2008) wrote, ‘Distance Learning occurs when learners

and faculty do not meet face-to-face in the same physical space' (p. 21). It can be deduced that distance learning occurs when students study learning materials, whether in print or via TV or radio, without having to meet their teachers face-to-face. It is worth mentioning that in the past, 'correspondence courses' used the postal services to send and receive materials, and when the UK's Open University started in the 1960s, it sent materials by post and offered lectures via late night BBC programmes.

Nevertheless, face-to-face lecturing was the usual mode of delivery until the revolution in ICT, when new modes of delivery, including blended learning and online learning, appeared (Szeto, 2014). In the present digital age, the teaching methods and tools used in higher education are expected to cater to individual styles of learning, through student-centred learning modes (European Commission, 2014). Some students learn better with the help of social media or interactive technologies that integrate images, graphics, videos and audio elements, while others prefer face-to-face or oral teaching and learning styles. Through sensible pedagogy in the classroom, technology can combine all of these elements, creating a personalised learning experience for each student based on the pedagogical and/or technological tools used in the classroom (European Commission, 2014). The present study explores how academics in higher education use technology in their classrooms. The most common use of technology in Kuwait involves ICT (e.g. websites, email and WhatsApp), which is used alongside face-to-face interactions with academic staff (Alajmi, 2010; Algharib, Noubey, & Hayat, 2012; Ghaith, 2013).

E-learning has been defined as 'a web application which communicates contents and structures the interaction in such a way that facilitates the learning

experience' (Triacca, Bolchini, Botturi, & Inversini, 2004, p. 1). With e-learning, the content and instructional methods, communication and learning processes are online; students do not engage in face-to-face interactions with academic staff, but they have access to module materials over the Internet via computers or smartphones (Clark, 2002; Stacey & Wiesenberg, 2007).

For practical reasons, a sudden transition to e-learning as the sole mode of delivery is difficult to achieve, especially within those higher education institutions that have relied on a face-to-face mode of delivery for a long time, and where the institutional culture may not yet be ready for such a transition (Smith, Ferguson, & Caris, 2001). The authors suggested blended learning as a useful solution for educational technology programmes in higher education institutions with similar situations – and this exactly describes the circumstances in the Kuwaiti higher education institution investigated in this study (Section 2.5). The next section (Section 3.3.4) will be devoted to reviewing the advantages and disadvantages of blended learning.

Many terms are used interchangeably to describe blended learning; amongst them are 'hybrid learning', 'integrated learning' and 'flexible learning' (Osguthorpe & Graham, 2003; Mason & Rennie, 2008). There are also many definitions of blended learning. Littlejohn and Pegler (2007) described it as face-to-face lecturing which is mixed with e-learning within a specific module or course, whereas Selix (2001) defined it as the combination of synchronous and asynchronous communication between academic staff and students. The working definition for this study is the blending of two types of teaching (lecturing and communicating between academic staff and students), which occurs both face-to-

face and online (i.e., synchronous with asynchronous) via digital technologies such as websites or email.

3.3.4 Blended learning

Blended learning may be the best mode of delivery for educational technology programmes for the following reasons:

- It offers flexibility in relation to time and place (Alebaikan, 2010; Osguthorpe & Graham, 2003). This means that students and academic staff do not have to be physically present in a particular place at a particular time; the instructor can give her or his lecture in the office or classroom, record it, and upload it so that students can learn at their own pace and revisit the lecture as often as they wish.
- Universities using blended learning can accept larger numbers of students in a cost-effective way, and the academic can present one online lecture to multiple classes at the same time (Twigg, 2003).
- It allows educational technology students to practise technology in a much more effective way (Al-Ismaiel, 2013).

Although blended learning is a mode of delivery that is proven to suit technology deployment within higher education curricula (Becker et al., 2017), transitioning from traditional teaching and communication to blended learning is not an easy task. Nevertheless, as discussed in Section 3.3.1, blended learning would be a useful mode of delivery for educational technology programmes, and this has been demonstrated by several positive studies in the Kuwaiti context, which asserted that it has the potential to be applied in Kuwaiti higher education (Algharib et al., 2012; Ghaith, 2013).

3.3.4.1 Advantages of blended learning

In Kuwait and other such regional contexts, blended learning has many advantages. It is flexible in relation to both time and place, since it is available 24 hours a day, seven days a week, and students can study at their own pace (Afacan, 2015; Alebaikan, 2010; Algharib et al., 2012). A blended learning environment therefore suits conservative societies like Kuwait, where education is subject to gender segregation, so female students in particular can benefit from it (Alebaikan, 2010; Al-Fadhli, 2008). Compared to a face-to-face mode of delivery, blended learning increases the levels of academic achievement among students (Ghaith, 2013; Alebaikan, 2010; Al-Fadhli, 2008). Al-Fadhli and Khalfan (2009) argue that blended learning also has a positive impact on students' critical thinking skills, and Alayyar, Fisser, and Voogt (2012) and Al-Fadhli (2008) indicate that the nature of blended learning encourages students to be independent learners. In addition, it contributes to the development of digital technology skills when using virtual learning environments like BlackBoard and Moodle (Alebaikan, 2010; Alayyar et al., 2012).

Students appear to enjoy studying more through blended learning as compared to a face-to-face mode of delivery, for several reasons (Alayyar et al., 2012; Al-Fadhli, 2008). Due to the flexibility of blended learning, they feel that they save time and effort since there is no need to meet with academic staff given the availability of digital technology such as email and WhatsApp (Alayyar et al., 2012). It can also be beneficial in reducing the stress experienced by shy students because they can send messages instead of having to meet face-to-face (Alebaikan, 2010; Al-Fadhli, 2008).

3.3.4.2 Challenges of blended learning

On the other hand, in Kuwait and other such regional contexts, blended learning also faces many challenges, not to mention technical issues (Alebaikan, 2010; Al-Fadhli, 2008; Abou-Naaj, Nachouki, & Ankit, 2012). For one thing, Kuwait and the surrounding areas lack a sufficient technological infrastructure. Another challenge is that not all students possess the skills needed to study through blended learning (Almalki, 2011). In a study involving Saudi Arabia, which neighbours Kuwait, Fleck (2012) warned that technology can become the focus, drawing all the attention to the extent that the educational objectives are disregarded. Also, not all students have the ability to study independently, particularly if they are not confident in their abilities with the digital part of blended learning. Finally, Almalki (2011) cautions that managing academic staff as they implement blended learning is not necessarily an easy task, as it requires a considerable amount of time and effort to design and manage two different kinds of activities (both online and in the classroom).

3.3.5 Factors influencing the successful integration of technology in higher education

The integration of ICT by academic staff members, as well as their pedagogical decisions to use ICT tools in the classroom, are complicated by the complex systems and interactions that take place within and among the various levels of the multilevel educational ecosystem; these include legislation, college administration, classroom culture and student characteristics (Chai, Koh, Lim, & Tsai, 2014). After reviewing several studies on pedagogical beliefs related to the use of technology in the classroom, Webb and Cox (2004) reported that the majority of academic staff who lack pedagogical knowledge do not exploit the

affordances of computers effectively, either to engage their students in the classroom or to help them construct their knowledge. Baker and Bednarz (2003) argued that the lack of pedagogical knowledge amongst academic staff members contributes to a lack of integration of ICT in their teaching practices, due to the fact that they were not initially trained to use technology in their teaching.

The views and beliefs of academic staff members regarding ICT in education influence their readiness to face challenges, and this in turn determines the types of ICT integration approaches they choose (Voogt, Fisser, Pareja Roblin, Tondeur, & van Braak, 2013). It can be inferred from this study that teachers who are more confident use education technology more dialogically, giving students more control, whereas less confident teachers use it in a way that simply reinforces their own existing 'drill and practice' methods.

Dysart and Weckerle (2015) argued that the lack of integration of technology in higher education institutions is due to a lack of pedagogical knowledge amongst academic staff members in regard to the use of technology in their subject domain. The researchers explained that there is an absence of professional development programmes that provide instructors with the knowledge and experience they need to apply technological applications specific to their discipline. In a study that has important implications for this current research, Birch and Sankey (2008) ran a qualitative meta-analysis to investigate the factors influencing the adoption of technology amongst academics, and they reported two main types of factors: institutional (referring to institutional enablers and barriers) and individual (referring to opportunistic, pragmatic, psychological and pedagogical motivations and barriers). One can conclude that there are ways in which 'opportunistic', 'pragmatic' and 'motivated' individuals manage to

successfully integrate a form of education technology despite ‘institutional barriers’, by using their personal smartphones or asking students to apply the ‘Bring Your Own Device’ (BOYD) approach.

In places where integration is restricted, the practices of academic staff members as regards integrating technology in the curricula are usually affected by negative or mistaken beliefs (Ertmer, 2005; Wang, Ertmer, & Newby, 2004). Liu (2011) argued that internal barriers are actually much more influential than external barriers. External variables are easy to control and resolve; for example, a lack of equipment, training or support can be resolved at the college level by obtaining adequate funding and providing training. In contrast, internal factors related to the views, beliefs and attitudes of academic staff members are key influencing factors that can directly impact the use of technology, and they are more difficult to resolve (Drent & Meelissen, 2008; Ertmer, 1999; Koh et al., 2015). Lim and Chai (2008) studied the relationship between the pedagogical beliefs of Singaporean academic staff, on the one hand, and their implementation of computer-mediated instruction, on the other. They showed that academic staff who hold constructivist-oriented pedagogical beliefs are highly likely to use ICT in teaching practices, for instance, asking their students to work, individually or in groups, on small research projects using assigned websites or to discuss issues related to their projects and assignments using laptops and blogs.

It would seem that a teacher who is predisposed to constructivist ideas would be more likely to integrate education technology, simply because technology allows for more interactive and dialogical teaching. It seems as though this predisposition gives these teachers a natural advantage from the outset. By contrast, it can be deduced that teachers with a more deductive and transmissive style may be more

antagonistic to education technology because it would seem to challenge their traditional style.

Heinich et al. (1999) recommended that academics carefully consider the requirements of curricula during their planning processes, when they determine what content should be covered, and this in turn requires careful consideration of the integration of ICT for this specific content. In this sense, Koh et al. (2015) argued that the academic staff might be constrained in their choice of content for a particular lesson when the relevant ICT is not available. Therefore, academic staff must draw upon their Content Knowledge (CK) and Technological Knowledge (TK) to identify the links between these two dimensions that could be most promising within the curriculum context. This, in turn, requires careful consideration of the potential prospects and challenges in terms of technology, pedagogy and content. For example, when teachers have high levels of technological knowledge but low levels of content knowledge, this can lead to weak subject learners. On the other hand, when teachers have a low level of technological knowledge but a high level of content knowledge (which generally describes the case with Kuwaiti teachers), they typically resort to the traditional transmissive teaching style.

In the same vein, Balanskat, Blamire and Kefala (2007) pointed to three categories of related factors that influenced integration of ICT by academic staff members: academic staff-level, college-level and system-level factors. Staff-level factors are personal ones, such as the teacher's beliefs and dispositions towards understanding and implementing technological knowledge. College-level factors include the decision of the college administration to train its academic staff members in using technology and to provide them with the required support and

facilities. System-level factors are related to the institutional vision and the strategies to deploy financial and technological resources to support academic units and staff in integrating ICT. A study by Ten Brummelhuis (1995) argued that the effective integration of ICT in the classroom is an outcome of a collection variables. It is not dependent on the availability or absence of any single factor; rather, it is determined by the interaction amongst all of the factors related to ICT integration. Therefore, an ideal college should have staff who understand how to integrate ICT through the use of effective training and technical facilities and a comprehensive institutional system ICT integration policy.

Drent and Meelissen (2008) conducted a study in the Netherlands to explore the factors which facilitate or hinder the integration of ICT by educators. The results showed that these factors – which include a combination of knowledge, skills, attitudes, and competencies – significantly influence the way that academic staff educators integrate ICT innovatively into their teaching practices. Their study stressed that to successfully integrate ICT, academic staff need to use student-oriented pedagogies, and their ICT competences need to be consistent with their pedagogical approach.

From a different perspective, Webb and Cox (2004) reviewed computer-related pedagogy and discovered that most academic staff fail to exploit many of the affordances of computers to create more engaging and constructivist-oriented pedagogy. They postulated that in order to shift their teaching practices, academic staff need to make substantial adaptations to their pedagogical beliefs and their views about computers, and they must become more knowledgeable about the affordances of computers. A study by Cantrell and Visser (2011) reported that the use of computers in South Africa is influenced by a number of factors, including

weak social and economic developments and a lack of computers in the home. The authors also observed that a lack of effective pedagogy decreases the use of computers in colleges.

The availability of technology is a crucial factor for the successful integration of technology in higher education. There are many new smartphone applications for exchanging text messages, including WhatsApp, which is an application that academic staff and students can use to communicate with each other, assuming that they have smartphones. Using WhatsApp and other social media within higher education has many benefits. It fosters interaction among students and between students and academic staff, and students find it beneficial because it provides instant feedback and makes it possible for learning materials to be available at all times. Students can help each other via the different technologies that they use daily, by exchanging relevant materials via social media, thereby supporting collaborative learning. This is consistent with social constructivism, because using social media helps academic staff to acquire better knowledge about their students, thereby creating a positive environment for all. Students' attitudes improve, and they exchange their materials more openly, while academic staff feel that using social media allows them to enhance their relationships with their students and to exchange private messages with them more often. Using social media outside of educational purposes also increases students' knowledge of the course content (Alfelaij, 2015; Bansal & Joshi, 2014; Bouhnik & Deshen, 2014; Bouhnik, Deshen, & Gan, 2014; So, 2016).

Social media also brings many challenges in higher education. Students might use it to post irrelevant material, engage in poor behaviour, use inappropriate language, or place unreasonable demands on academic staff, by expecting

immediate responses, for example (Malecela, 2016; Yon, 2016). Users of social media can also find themselves annoyed by the large number of messages and posts they receive (Malecela, 2016; Yon, 2016). Because social media requires an Internet connection, Internet service outages will affect access to applications, and Internet service fees may be beyond the budget of some students. Another important consideration is that the privacy of users may be at risk when using certain social media applications at universities. For example, the mobile numbers of all members of a WhatsApp group can be seen by everyone else in the group. This is why Boulos, Giustini, and Wheeler (2016) recommend more research on social media, especially in relation to privacy and security issues.

Half of the people on Earth (about 3.7 billion people) use email in their daily communication, and that number is expected to increase by more than one billion by 2021 (Levenstein & Radicati, 2013). Email is therefore considered to be one of the most important forms of digital communication between and amongst people and organisations, because it is so much faster than traditional mail (Dabbish & Kraut, 2006). Also, there are many other ICT applications and software available that can work with email.

Email is used in higher education for communication between academic staff and students for many purposes. Biesenbach-Lucas (2007) produced a comprehensive review of email use in higher education, and he found that academic staff and students communicate via email so that they can continue 'building a relationship, getting information/advice about course materials and quizzes, addressing late work, and missed classes, challenging grades, showing interest in and understanding of course materials' (p. 61). There are two main types of suppliers for email: 1) private, where staff members and students use the

organisation's own server to generate emails, and 2) email services supplied by companies such as Google's Gmail or Yahoo Mail.

Communicating via email has many advantages. Fallows (2002) noted that it is flexible due to its asynchronous features; Tao and Reinking (1996) considered it cost-effective and easy to use because it is based on a text format; Whittaker, Bellotti, and Moody (2005) called it another form of instant messaging; and Berghel (1997) pointed out that it is paperless, making it possible to share information via a variety of digital formats. In addition, it can bring people together virtually, even when they are far apart physically. Sheer and Fung (2007) therefore concluded that email strengthens the relationships between academic staff and students. Email supports accountability towards work commitments, due to its server documentation (Lichtenstein & Swatman, 2003), and communicating via email should also increase employee productivity (Dabbish & Kraut, 2006). Technological means are now advanced and widespread, but within the realm of education, it should be the chosen pedagogy that directs those technologies, and not the other way around (Fleck, 2012).

The availability of resources is a fundamental factor in the successful integration of technology in higher education, and the resources within education technology programmes should be similar to those used by practitioners in the real world (Collins, Brown, & Holum, 1991). With such resources in place, academic staff can create a context and activities that are authentic, and this will allow students to gain hands-on experience with their technology skills.

Warschauer (2004) pointed out that there are many types of resources in higher education, including hardware resources and digital resources. The following are the sorts of requirements in educational technology programmes.

Supplying needed devices. Computers are required for teaching computer modules. Media studios must be equipped with the necessary devices, such as video and print photography cameras, along with computers and related software for editing purposes, and Internet service must be provided. This will help to provide an effective learning environment so that academic staff can create authentic learning experiences for their students (Collins et al., 1991). It is difficult for students to study educational technology topics, like computer and media skills, without having access to these resources, and doing so will not allow them to achieve the learning objectives (Collins et al., 1991).

Targeting educational needs. Educators should be judicious, as one comprehensive critical review reported an absence of a sufficient and clear pedagogical approach to deploying resources within the learning process, despite the fact that resources such as computers and tablets have become ubiquitous (Nguyen, Barton, & Nguyen, 2014). It is recommended to carry out a comprehensive review of the educational objectives and to predict potential stakeholder issues, rather than just acquiring resources for their own sake (Surry & Baker, 2016). Educators should recognise that the resources arena is full of profit-seekers who may exaggerate the potential benefits of resources they are promoting (Selwyn, 2007; Selwyn, 2011). They should also be careful to define the agenda for the use of potential resources in educational contexts, rather than leaving this up to technologists who may not be in a position to consider the students' best interests (Selwyn, 2007). If possible, potential resources should be tested in real-life situations, allowing academic staff and students to actually use and evaluate them to see whether they enhance learning (Spector et al., 2014).

Overcoming barriers. In general, academic staff lack confidence in their ability to use new resources (Selwyn, 2011), and a major issue in the educational technology arena is the lack of proper training on projected resources (Buarki, 2015; Selwyn, 2011). Selwyn (2011) also found that the deployment of resources can be inappropriate in terms of time spent on the lesson, the content and its relation to the curriculum. While universities need some of the same resources that employers need, there are often no clear guidelines for applying them (Nguyen et al., 2015). Educators need to be aware of all these issues as they try to design a clear pedagogical approach for each potential resource.

3.4 Studies of educational technology in the Kuwaiti context

The topics of educational technology as a complete higher educational programme, and of the MoEIA as a job market, have not yet been explored. In the Kuwaiti context, for example, of the studies that were discussed in the literature review and in the context chapter (Al-Rashed, 2012; Albadir, 2014; Algharib et al., 2012; Ayoub, 2012; Burki, 2010; Ghaith, 2013), all have dealt with educational technology as a general subject, but none have discussed educational technology programmes within higher education. In addition, researchers have not yet examined the details of job market requirements in light of Kuwait's Vision 2035, bearing in mind the statements of leaders at MoEIA, who have expressed the need for digital technology in order to enhance their job activities.

There is a lack of studies exploring job market needs in relation to educational technology preparation, and the studies that were interested in fostering the learning process on campuses did not investigate the job market and its needs. Although these studies (Algharib et al., 2012; Ghaith, 2013) provided valuable findings – for instance, that blended learning can be adapted in Kuwait, they

focused on specific variables, such as achievement levels, or on just one or two particular courses; they did not examine the entire learning process or the broader Kuwaiti context. Moreover, their methods and samples have been contested. They do not represent comprehensive views of the actual field because they focused on certain variables, on just one or two modules, and on specific people. Importantly, these studies (Algharib et al., 2012; Ghaith, 2013) did not successfully examine the needs of the job market in relation to the sorts of skills and knowledge that are expected from employees.

Another group of studies sought to understand the perceptions of certain courses (Al-Daihani, 2011; Al-Rashed, 2012; Burki, 2010). Their approach was somewhat similar to the current study with regard to strategies and aims (e.g., qualitative methods), but they were different in scope. Burki (2010) investigated library and information sciences at Kuwait University, whereas Al-Daihani (2011) investigated library and information science in both Kuwait University and the PAAET College of Basic Education. Al-Rashed's (2012) study was based mainly on quantitative data, which might not allow for a thorough understanding of people's perceptions and beliefs. These studies tended to focus on the courses only, without going further to investigate the job market. Only Albadir (2013) focused on both educational courses and the job market, but religious organisations were overlooked. In addition, the study was very broad in terms of educational courses; it covered a set of them, but educational technology itself was not covered.

In Kuwait, there has been limited research on educational technology as a course or discipline, although many studies have been carried out on digital technology in an educational context. The current study, therefore, aims to capture the perception of key stakeholders towards educational technology as a discipline and

to investigate to what extent the current outcomes match the MoEIA's skills requirements (since the MoEIA is one of the main recipients of educational technology programme graduates). At the same time, it would be very useful to define exactly what knowledge and which skills are required by the MoEIA. The current study is, in part, a response to Kuwait's Vision 2035 and the government's call for a review of the education system as a step towards achieving that vision. The study also responds to statements by MoEIA leaders regarding the digital knowledge and skills the ministry requires to fulfil its objectives (MoEIA, 2017).

3.5 Summary

This chapter has reviewed three models that are widely used in the literature to understand the use of digital technology in education. The SAMR and RAT models were introduced briefly, and the TPACK model was discussed in more detail, since it is the main theoretical model used in this study. Social constructivist theory and TPACK were the underpinning theoretical frameworks applied in the current study. In addition, the chapter reviewed other studies that have used TPACK as a framework, and it discussed the gaps in studies of digital technology in Kuwait.

Educational technology is an ever-changing subject that has been developing over many years. Educational technologists should, however, be cautious when using technology in educational contexts because the benefits of educational technology are often overestimated. Education is a vital part of people's lives, so educators and administrators are frequently pressured by the public and policymakers, who understandably want to improve the quality of education but do not always go about this in the right way (e.g. Selwyn, 2011; Spector et al., 2014). In addition,

blended learning is a good solution as a mode of delivery for educational technology.

This chapter has reviewed the literature regarding the integration of digital technology in higher education, discussing both the benefits and challenges of digital technology. The way in which institutions transition from face-to-face learning to blended learning is a crucial factor.

The worldwide job market requires a certain set of skills, referred to as 21st century skills, which include problem-solving, teamwork and critical thinking skills. However, there are issues concerning how to apply such knowledge and skills within educational technology courses. It can be argued that integrating them into the assessment and communication aspects of educational technology courses is an effective way to solve these issues (Voogt & Roblin, 2010).

Chapter 4: Research design and methodology

4.1 Introduction

This chapter contains a full description of the research design used in this study. After a brief reminder of the research objectives and the research questions, there is a discussion of the research paradigms, followed by a justification of the paradigm that was considered appropriate for the present study. Next, there is a description of the research instruments employed, and then an outline of the methods of data analysis and some issues concerning the ethics, reliability and validity of the study, Finally, there is a conclusion that summarises the chapter.

4.2 Purpose of the study

This study was undertaken with three aims in mind:

- To identify the current challenges in the implementation of pedagogy, technology and resources within the educational technology programme.
- To identify pedagogy, technology and resources that should be implemented in the educational technology programme.
- To offer recommendations for the programme that match the perspectives of academic staff, students, and MoEIA managers, so as to realise the government's vision for 2035.

On the basis of these aims, the main research question was defined as follows:

> **To what extent is the educational technology programme in higher education in Kuwait effective in matching the government's vision?**

This main question was broken down into the following sub-research questions (SRQs):

- *SRQ1: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by students?*

- *SRQ2: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by academic staff?*

- *SRQ3: What are the perceptions of MoEIA managers about the educational technology programme graduates in higher education in Kuwait?*

4.3 Research paradigm

A research paradigm is a set of beliefs, assumptions and traditions that inform research practice (Creswell, 2013). Research paradigms determine the scope and range of legitimate research by defining the notions that inform that research (Guba & Lincoln, 1994) In broad terms, a paradigm is the 'basic belief system or worldview that guides the investigation' (Guba & Lincoln, 1994, p. 105). Although Kuhn (1970) is a dated source, it provides a useful definition of the term 'paradigm': 'It stands for the entire constellation of beliefs, values and techniques, and so on shared by the members of a community' (p. 17). A research paradigm is a system of axioms and assumptions about the nature of reality, along with the techniques and approaches that guide a group of researchers, informing their thought processes and forming the basis for the research they undertake (Bassey, 1990). A paradigm is a prerequisite for judgement and also for the interpretation of social ontology (Cohen, Manion, & Morrison, 2000, p. 9).

Although Henning, Resburg, and Smit (2004) present the idea of a paradigm as a kind of hypothesis, it is better to understand it as a total framework within which

theories are developed and contained – ultimately determining how the world is interpreted and understood. An individual's particular perspective of the world informs and shapes his or her personal interactions, professional practice and conclusions regarding the phenomena chosen for study.

In addition, paradigms are strengthened by those who form part of the community that adheres to the fundamental beliefs underpinning them. Everything, from how the research is designed to how data is collected and analysed, is in large part defined by the beliefs held by the researcher. Thus, a certain reflexivity is necessary on the part of the researcher, to bring about a heightened awareness of the observer's role in the process.

A paradigm is a framework that is guided by 'a set of beliefs and feelings about the world and how it should be understood and studied' (Guba, 1990, p. 17). The particular framework an individual applies depends upon certain ontological, epistemological and methodological assumptions (Denzin & Lincoln, 2001).

Researchers in the field of education work within various paradigms; they apply positivist and post-positivist/constructivist frameworks that they deem appropriate to their research, as determined by the research questions they seek to answer. It is important to understand the relevance of this in order to understand the framework which was chosen and deemed to be relevant in the present study. Therefore, the next section gives a brief description of both positivist and post-positivist/constructivist frameworks.

4.3.1 Positivism

The positivist paradigm as an approach to analysing social reality has its origins in the philosophical concepts developed by the French philosopher August Comte

(1798–1857). Comte stressed the importance of rationality and objectivity in understanding human behaviour and interaction; in other words, to obtain accurate data and precise knowledge, the data and knowledge must be experienced through the senses and established through experiment and observation. Comte's scientific ideas are used by positivist researchers and thinkers as ways of producing knowledge. It is helpful, then, to examine these notions within the positivist framework as its matches scientific concepts.

A positivist, or quantitative, researcher believes that fundamentally, the world can be understood objectively and is external to our understanding of it (Bryman, 2012). He or she also believes that science is a value-free enterprise, a fact which renders the observation process free from interest and error. Ontologically speaking, the world is one unit that, if dissected and parsed, will reveal its complete nature to the social scientist. The overarching approach adopted by positivists is to design research that is able to extract relationships of cause and effect so that patterns of behaviour can be predicted; accordingly, the purpose of the research is less likely to be exploratory than causal or predictive (Bhattacherjee, 2012). The theory developed from such approaches is subsequently used to explore the world, identifying important variables, alongside their interactions and connections.

The present study is interested in understanding the views of different people regarding the educational technology programme. Their perceptions do not comprise a single unit, and each individual has her or his own unique perception of reality. Hence, positivism was deemed not to be the best way to answer the research question and so was not used in this study.

4.3.2 Interpretivism

Research that is more qualitative in design often falls into an interpretivist paradigm. Interpretive research involves 'trying to come to an understanding of the world of the research participants and what that world means to them' (Radnor, 2002, p. 29). The interpretations of qualitative research emphasise human values and experiences (Bryman, 2012), and this allows researchers to explore and interpret the world based on where individuals live, work and gather in sociocultural settings. Interpretivism is considered an appropriate paradigm for studies about social settings and people's lives and work, because researchers can discover more about the truth based on the perceptions of the participants. Therefore, a qualitative methodology would be a useful approach. The researcher would need to interact with the study participants in order to capture their perceptions, beliefs and opinions of the issue being examined (Creswell, 2011; Guba & Lincoln, 1994). Since the present study explores the views of staff and students, as well as MoEIA managers, it was important to enable the participants to share these views in a format which was conducive to creating rich data that would be relevant to this study.

Interpretive research starts with individuals, and from there, it aims to understand their interpretations of the reality around them. Theory is contextual and emerges from particular situations, being built on the accumulated data initiated by the act of research. In other words, theory should emerge as a result of research. An investigator interacts immediately with human experience in order to construct a theory (Cohen & Manion, 1986).

The present study, which applies an interpretivist paradigm, explores the perceptions of stakeholders (academic staff, students and managers) as to the

effectiveness of the pedagogy, technologies and resources that are or should be implemented in an effective educational technology programme, as well as their perspectives in relation to the programme's graduates, in the light of the sociocultural context within which the examined programme exists.

4.3.3 Ontology and epistemology

In simple terms, ontology is concerned with the philosophy of reality, whereas epistemology is concerned with the philosophy of knowledge (Lincoln & Lincoln, 2005). Epistemology attempts to understand how we know reality, and the choice of an appropriate methodology choice stems from this framework.

Ontology is mainly concerned with the debate about the nature of reality, particularly whether it is interpreted subjectively or objectively (Burrell & Morgan, 2017; Scotland, 2012). The present study aims to understand the perceptions of academic staff and students, as well as managers at the MoEIA, regarding the educational technology programme. Therefore, it was anticipated that the study would generate multiple interpretations of the educational programme, as those interpretations are socially constructed reality. The current study was guided by the ideology that reality is a subjective incident, and that 'the social world is governed by normative expectation and shared understanding and hence the laws that govern it are not immutable' (Ritchie & Lewis, 2003, p. 23).

Epistemology refers to what is regarded as accepted knowledge in a specific subject (Bryman, 2012). It focuses on how knowledge is established, acquired and communicated (Scotland, 2012). It is crucial for researchers to understand that their research process will inevitably be influenced by the epistemological assumptions they hold, and that these assumptions will affect how the qualitative data is interpreted and understood (Travers, 2001). All research has as its basis

an epistemological question, namely: what is the relationship between the observer and what can or could be known about the thing that is being observed? The epistemology of qualitative research is essentially constructivist. Thus, there is an assumption that observable phenomena are inextricably linked to various contexts, including personal, social, cultural, economic, political and historical contexts (Stake, 2010). Therefore, in the present study, epistemologically speaking, the researcher's task was to gain access to the educational technology stakeholders (academic staff, students and MoEIA managers) to understand and engage with their world, and to make sense of their constructed meanings. Interaction between the researcher and the study participants helps to reach understanding, and it enables interpretation of constructive meanings (Radnor, 2002). Being a former employee of the MoEIA, the researcher had a good opportunity to gain access to MoEIA managers. In addition, his experience of being an educational technology lecturer and a former graduate student enabled him to create a good relationship with the stakeholders.

An interpretivist framework guided the current study, in which ontological and epistemological assumptions connected to this paradigm were examined. The study began with the assumption that the ideas and categorisations that human beings construct are ultimately constructed in their capacity as social beings. The study explored the varying perceptions towards the implementation of pedagogy, technologies and resources that are or should be implemented in an effective educational technology programme in higher education, and it was understood that these phenomena are human constructs and are subject to change over time. The pedagogy, technologies and resources that are or should be implemented, and the educational technology programme, do not constitute an unchanging, immutable object of human thought; rather, they are contingent and variable,

dependent on our interpretations of them. This study is centred around the interpretations of the stakeholders' individual views of the programme. The aim of the study was to examine the ways in which pedagogy, technologies and resources are or should be implemented in an effective educational technology programme, and the ways in which the quality of graduates of that programme can be improved by acting upon the perspectives of students, academic staff and MoEIA managers. Consequently, a qualitative methodology was adopted in order to gather data, and this will be discussed in the next section.

4.4 Methodology

The term 'methodology' refers to how research is or should be conducted, the context in which theories arise and are utilised, the form and structure of those theories, and the way specific theoretical approaches can be connected with specific research problems (Blaikie, 2007). A methodology is adopted, bearing in mind the aims and purpose of the research, in order to best answer the research question (see Section 4.2). One of the key questions to ask when determining the best methodology for a particular study is, 'How can the inquirer (would-be knower) go about finding out whatever he or she believes can be known?' (Guba & Lincoln, 1994, p. 108). There are two common approaches within educational research: the quantitative approach and the qualitative approach.

Quantitative and qualitative research differ in a number of ways (Firestone, 1987). Quantitative approaches are usually premised on a positivist worldview that assumes that there is an objective social reality that manifests itself unequivocally to observers, regardless of their views and opinions. Qualitative research is underpinned by an interpretative theory of reality which asserts that facts are social constructs resulting from individual and collective understandings of given

situations (Creswell, 2013). Qualitative strategies are required whenever there is a need to understand the intricate nature of experiences, emotions and feelings (Corbin & Strauss, 2008), which are often too difficult to quantify and gauge using quantitative methods (Babbie, 2001; Silverman, 2015).

The reality that lies behind numerical statistics is the primary concern of quantitative research, which involves carrying out empirical measurements and quantitative analysis. Qualitative research is concerned with social phenomena as manifested in the interpretations of the various participants, whereas quantitative researchers explore 'social facts', usually by way of experimental designs, with a high level of control over the entire procedure, from planning to implementation. In contrast, qualitative research often has a framework that is semi-structured or unstructured, in acknowledgement of the fact that the variables and the environment itself are not usually so stable and that the participants and observers themselves can often affect the research. Qualitative research is descriptive and is interested in personal agency in an intricate environment. It involves a collection of methods for handling the contingency of the social world, and each researcher adopts his or her own approach to the interpretation of the data (Merriam, 2009).

The present study attempts to understand the perspectives of the research participants and their views towards their environment, in order to construct an integrated picture of all the phenomena being studied. To understand the complexity of technology in higher education, and to investigate the research questions, the researcher utilised a case study methodology that included a qualitative approach, in order to provide an overview of the participants' perceptions and experiences with the implementation of technology in higher education, as explained in detail in the next section.

Notably, the reason this study was guided by a qualitative approach is that this type of research is best suited to answering the study's research questions. A qualitative approach was expected to yield rich data by allowing the study participants to share their own views in a way that was easy for them, using their own words to express their ideas.

4.5 Case study

A case study is a strategy that is used by a researcher to examine a given phenomenon in its natural context, subject to activity and time, and to gather detailed data by way of various strategies for collecting evidence and information over a prolonged and sustained period (Yin, 2013).

Creswell (2013) emphasised that, rather than being a method like observation or interviews, a case study is better thought of as a strategy, a kind of stance or approach. A case study allows the boundaries of the case to be carefully drawn; furthermore, it accords opportunities for triangulation (Yin, 2013).

It is possible for a case study to involve an individual or group setting, and to include the participation of the institutions and organisations concerned. A case study can also be a programme or an event, or relationships and connections between people in a process – or, indeed, whatever it may be that interests the researcher concerned (Robson & McCartan, 2016; Stake, 2010; Wellington, 2015). Yin (1994) drew attention to method and technique as important elements in a case study, whilst Stake (1995) put emphasis on the object of study rather than the methods of investigation, explaining that 'As a form of research, case study is defined by interest in individual cases, not by the methods of inquiry used' (p. 236). The present study adopts this part of Stake's definition: '[a] case study is defined by interest in individual cases'. The focus of this case study was

investigating the process of ICT integration in one higher education institution in Kuwait. (See Section 4.7 for details about the sample.) In investigating this process, the participants' perceptions, experiences and values in relation to the phenomenon being researched, and their roles and relationships within the process, were explored by using multiple methods in relation to the case study undertaken.

The study used a qualitative case study design to collect rich descriptions of ICT integration in higher education in Kuwait as a phenomenon in its context (the educational technology programme).

This study aims to understand the perceptions of the stakeholders, who are, in this context, academic staff and university students at the educational technology programme and managers at the MoEIA. Consequently, a case study helped to clearly define the case boundaries. Although the college concerned operates 20 programmes, the study's sole focus is on one programme, the educational technology programme, and on its graduates employed at the MoEIA.

Applying triangulation in case study research is vital for a thorough understanding of the examined case from different perspectives; in this way, a more in-depth understanding is achieved, and research quality is improved (Baxter & Jack, 2008; Stake, 2010; Yin, 2013). Two triangulation types were deployed in the current study (Stake, 2010; Yin, 2013): Perspective triangulation was applied via the involvement of academic staff, students and MoEIA managers, and data collection triangulation was applied via the interviews and focus groups, thereby ensuring an in-depth understanding of the programme that was being examined

The case study strategy has some limitations, including concerns about the extent to which the findings can be generalised (Creswell, 2013). Although the findings of

the case study might have intrinsic interest, the selected study incorporates various individual perspectives, which means that the findings cannot be generalised to any other context. It is the intention of the current study to present enough details of the methodology for other researchers and readers to be able to determine whether they can transfer any of its findings (Cohen, Manion, & Morrison, 2007).

This section has described the choice of case study and justified this in terms of the research purpose and focus. The next section will explore the data collection method chosen to best answer the research questions.

4.6 Data collection and research methods

Having positioned and justified the interpretivist paradigm and inductive qualitative methodology approach, the following sections in this chapter will demonstrate and discuss the study's data collection methods, which include interviews and focus groups. In addition, they will explain how the chosen methods address the research questions. This will be followed by an explanation of the steps and procedures used in the data collection, as well as a description of the sample (Section 4.7).

4.6.1 Interviews

Interviewing is a 'qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation' (Boyce & Neale, 2006, p. 3). Interviews often give researchers the opportunity to explore individual perspectives, experiences and hopes that would otherwise remain unarticulated (May, 1997). The present study used semi-structured interviews in which the

general topic was defined and guided by the interview questions, but there was room for the researcher to follow a line of questioning that departed from the plan (May, 1997).

Interviews are powerful tools that can elicit several forms of not only sensory experience but also body language, as well as feelings and verbal tones. Although interviews are time-consuming, they can lead participants to express profound and complex insights into important issues. Time is required, however, to transcribe the interviews and analyse the data collected from them (Adams & Cox, 2008). Interviews allow researchers to understand how participants perceive the issue being examined (Cohen at al., 2007). They also allow the researcher to follow up on the interviewees' ideas and perceptions regarding the examined topic (Kvale, 1996), which helps in answering the research questions.

Based on the aims of this study, interviews were deemed to be an appropriate method for collecting data from academic staff and managers at the MoEIA. They allowed the participants the opportunity to discuss their perceptions towards the programme being examined, and specifically towards the implementation pedagogy, technologies and resources that are or should be implemented in an effective educational technology programme from the point of view of academic staff and managers at MoEIA. The participants included different stakeholders affiliated with the programme, each one with her or his own potential interpretation of the research focus. Conducting interviews presented a good opportunity for the academic staff and managers to discuss their perceptions in depth and in their own words.

There are three main types of interviews: unstructured, structured and semi-structured (Oates, 2006; Robson, 2002). Unstructured interviews give the

interviewees the most flexibility, allowing them to express their own opinions and views about the issues being examined, as the interviewer has no specific list of questions, whereas structured interviews adhere rigidly to a pre-designed set of questions. In both of these types, there is usually not much freedom for the researcher to probe and explore ideas, and there is limited opportunity to make adjustments during the interview. In contrast, a semi-structured interview is a kind of qualitative interview in which the interviewer designs the questions or topics in advance and then asks the interviewee to answer or discuss them. Semi-structured interviews are interactive and flexible, allowing the interviewer to obtain new information that may arise during discussions with the participants (Oates, 2006; Robson, 2002). In contrast, a structured interview is strictly managed; since the questions are prepared in advance and the participant has to answer them in sequence, it is unusual for further questions or information to come up. Semi-structured interviews have numerous advantages, particularly the flexibility granted to both the researcher and participants (Stone & Harris, 1984), which suits the aim of the current study to obtain an in-depth understanding of the perceptions of academic staff and managers on the topic. During semi-structured interviews, the participants have the flexibility to speak freely in response to questions, and it is acceptable for them to shift from one focus to another, which is a useful advantage of semi-structured interviews (Stone & Harris, 1984).

Semi-structured interviews do present some challenges, though. They are time-consuming (Bryman, 2012) because the researcher must arrange appointments with each individual participant, record the data, and process the data. Also, the researcher may deliberately or accidentally influence participants' specific answers, causing bias. Interviews may be more interactive than other tools, such as surveys; thus, they may affect the communication and atmosphere that exists

between the researcher and the participants, and this might affect the reliability of the research (Silverman, 2010). Interviews might be negatively influenced by the interviewee's attitude and circumstances at the time of the interview.

In this study, the researcher attempted to mitigate such challenges, for example, by seeking to establish a good rapport with the participants, to encourage them to give frank answers to the prepared questions. All the academic staff and managers were interviewed independently to elicit their answers to the research questions, and once the interviews were finished, the participants received an account and were asked to look it over and verify their responses.

4.6.2 Focus groups

In addition to individual interviews, 16 focus groups were conducted in sessions lasting about 50-65 minutes each. Focus groups are employed to understand participants' opinions, views and feelings about certain issues (Krueger & Casey, 2009). The number of participants in the focus group should be kept to a minimum because a larger number might cause problems such as conflicts between participants or some of them not getting the chance to state their opinions; moreover, larger groups also make the data more difficult to manage (Krueger and Casey, 2009). According to Krueger and Casey (2009), an optimal focus group includes between five and eight participants, but this researcher considered eight to be too many, so the focus groups in the current study contained only four or five participants. With these numbers, it was anticipated that all participants would have enough time to express their thoughts and perceptions.

A focus group has several advantages over other types of interviews. It is an effective method when a researcher wishes to uncover a broad range of views and opinions (Krueger & Casey, 2009), and focus groups encourage participants

to address issues that they might not talk about in one-to-one interviews. Indeed, focus groups stimulate conversation, with participants able to interact with each other to generate different opinions and views; as such, they are a useful method when seeking to understand how individuals perceive an examined issue (Bryman, 2012).

Focus groups also have disadvantages, however. First, the participants may feel pressure to answer questions in a certain way, especially when asked about previous behaviour (Krueger & Casey, 2009). Also, to avoid seeming ignorant in front of their peers, they might answer questions and offer their opinions on topics with which they have little experience (Krueger & Casey, 2009). Either of these issues might lead to results that are not entirely valid (Krueger & Casey, 2009), but there are precautions that can be taken to strengthen the probability of obtaining helpful data. For example, a pilot study can prepare the researcher carry out well-planned focus group interviews (Section 4.8.2).

In the present study, focus groups were carried out with students because the groups were expected to elicit a wider range of views and opinions than would have been expressed if individual interviews had been conducted instead (Lazar, Feng, & Hochheiser, 2017). In addition, focus groups offer the convenience of interviewing a group of people together instead of having to set up separate meetings (Lazar et al., 2017), and they are effective because they include participants who share common experiences, as with the students in the educational technology programme (Krueger & Casey, 2009). It was expected that the interaction amongst focus groups members might lead to a diversity of opinions and views regarding the examined topic (Gorman, Clayton, Shep, & Clayton, 2005).

The next section will discuss how the sample was selected for all research participants.

4.7 Sampling

Cohen et al. (2000) confirm that 'the quality of a piece of research not only stands or falls by the appropriateness of methodology and instrumentation but also by the suitability of the sampling strategy that has been adopted' (p. 92). There are many considerations when determining an appropriate sample and size. Generally speaking, the research format (i.e., quantitative or qualitative) and the research questions, aims and objectives play important roles in the sampling strategy (Bryman, 2012). The availability of resources and support are also factors in determining sample size (Bryman, 2012).

There are two types of sampling strategy: probability (or random) sampling and non-probability (or purposive) sampling (Bryman, 2012). Probability sampling means that the entire study population has the same opportunity to take part in the study, and the results can then be seen to be generalisable to the whole population.

The present study utilised Patton's purposive sampling intensity case (Patton, 1990), which means using '…information-rich cases that manifest the phenomenon intensely' (p. 17). Purposive sampling helps researchers to focus on a case that illustrates features or processes with which they are concerned (Silverman, 2015). In this case, it was used to select participants with a diversity of ages, genders and years of experience.

As applied to this study, purposive sampling meant selecting the study participants based on the research question and objectives, as well as for specific purposes.

Because the current study was based on a case study, which was a focus study in a specific context (i.e. the educational technology programme), the specific sample included people from that institution or in government, namely academic staff, final-year students, and managers at the MoEIA.

4.7.1 Sample 1: Academic staff

All 20 of the academic staff working in the Educational Technology Department were invited to participate in the interviews, and 12 of them expressed an interest in taking part.

ACADEMIC CODE	TEACHING EXPERIENCE	QUALIFICATION	GENDER
AC1	10–19 years	PhD	Female
AC2	20–29 years	PhD	Male
AC3	10–19 years	PhD	Male
AC4	10–19 years	PhD	Male
AC5	20–29 years	Master's	Male
AC6	10–19 years	PhD	Female
AC7	20–29 years	Master's	Male
AC8	20–29 years	Master's	Male
AC9	10–19 years	PhD	Female
AC10	20–29 years	PhD	Male
AC11	10–19 years	PhD	Female
AC12	10–19 years	PhD	Male

Table 4-1 Sample of academic staff

The sample strategy was based on purposive sampling; the researcher contacted academic staff members who lead ICT modules and teach courses in the educational technology programme. The researcher visited the department to discuss the study and gain informal consent. (See Sections 4.8.1 and 4.11 for additional information on research ethics.) Those who were interested in taking

part in the study were asked to give their formal consent, and in many cases, the interview was conducted immediately; otherwise, the researcher and participant arranged a convenient time to hold the interview.

The academic staff participants were both women and men; some had master's degrees, while others had PhD degrees, and their teaching experience in the department ranged from eight to 30 years (Table 4.1). To ensure anonymity, each was assigned a code (e.g., AC1, AC2, and so on).

4.7.2 Sample 2: Students

The second group of participants was made up of male and female students. Only Year 4 students were invited because they had completed the greatest number of different educational technology modules. Due to their experience, they were expected to be more familiar with the programme and its issues, as compared to students in their first or second years of study. It was hoped that the participating students could provide in-depth information regarding the programme and the context of using ICT in higher education in Kuwait.

To obtain access to the students, the researcher contacted intermediaries (Bryman, 2012): core module academic staff in the programme. The researcher visited the administrators and informed them of the study's aims and goals. The researcher asked staff members to contact students enrolled in the final year, to describe the research and find out if they wished to participate. A total of 293 students were contacted via the module tutors (i.e., academic staff) and invited to take part in the focus groups. In the end, a total of 78 male and female students participated in the study (Table 4.2).

STUDENT STUDY SAMPLE	
Female	40 students
Male	38 students
Total	78 students

Table 4-2 Sample of students

This sample size resulted in 16 focus groups: eight each for female and male students, whose ages ranged from 20 to 40 years. These students were in their final year of study and had already earned at least 100 credit points from different modules; therefore, they were familiar with the programme and its teaching methods, and they could provide in-depth information about the focus of the study. More details about the students in the focus group are given in Appendix F.

4.7.3 Sample 3: Managers at the MoEIA

The third group of participants included eight managers from the MoEIA, who were identified by the researcher based on his previous knowledge of the MoEIA; this was therefore an opportunistic sample. The researcher approached the MoEIA Administrative Affairs and Human Resources departments to ask them which departments within the ministry were keen to hire information technology programme graduates. He then met separately with each of the eight managers, following ethical procedures in order to obtain their consent. In each of these meetings, the researcher presented and explained the study's aims and interests, as stated in the consent form. He also assured the managers that their participation would be confidential and that they would be free to withdraw at any time. All eight of the managers accepted the invitation and agreed to participate (see Appendix E).

MANAGER CODE	QUALIFICATION	YEARS OF EXPERIENCE AT MOEIA
M1	Bachelor's	10–19
M2	Master's	10–19
M3	Bachelor's	20–29
M4	Bachelor's	1–9
M5	Bachelor's	1–9
M6	Diploma	20–29
M7	Diploma	10–19
M8	Bachelor's	20–29

Table 4-3 Details of the MoEIA managers

The interviewees came from diverse departments and had backgrounds in the fields of education, technology and media. Because their experience ranged from less than 10 to almost 30 years of service in the ministry, they had a great deal of information about the knowledge and skills required of programme graduates (Table 4-3). Each of the managers was allocated a code (e.g., M1, M2).

4.8 Study procedures

The data for this study was collected in a process that involved five practical steps (Figure 4-1).

Figure 4-1 Procedures of the study

4.8.1 Obtaining approvals

Before carrying out the current study, the researcher reviewed the University of Reading code of ethics as well as the nature of the study, the participants and the ethical issues that must to be taken into consideration when carrying out the research. Subsequently, the University of Reading Ethics Committee approved the ethical approach set out for the current study, and the researcher made a commitment to comply with it. This study was also conducted with the formal approval of the Dean of the College at the university where the research was carried out. The ethical issues are discussed in detail in Section 4.11.

4.8.2 Conducting a pilot study

This section explains the steps carried out to check the quality of the interview questions and the interview guide. These steps, each of which assisted the researcher in developing an interview guide for the main study, are discussed below (Figure 4-2).

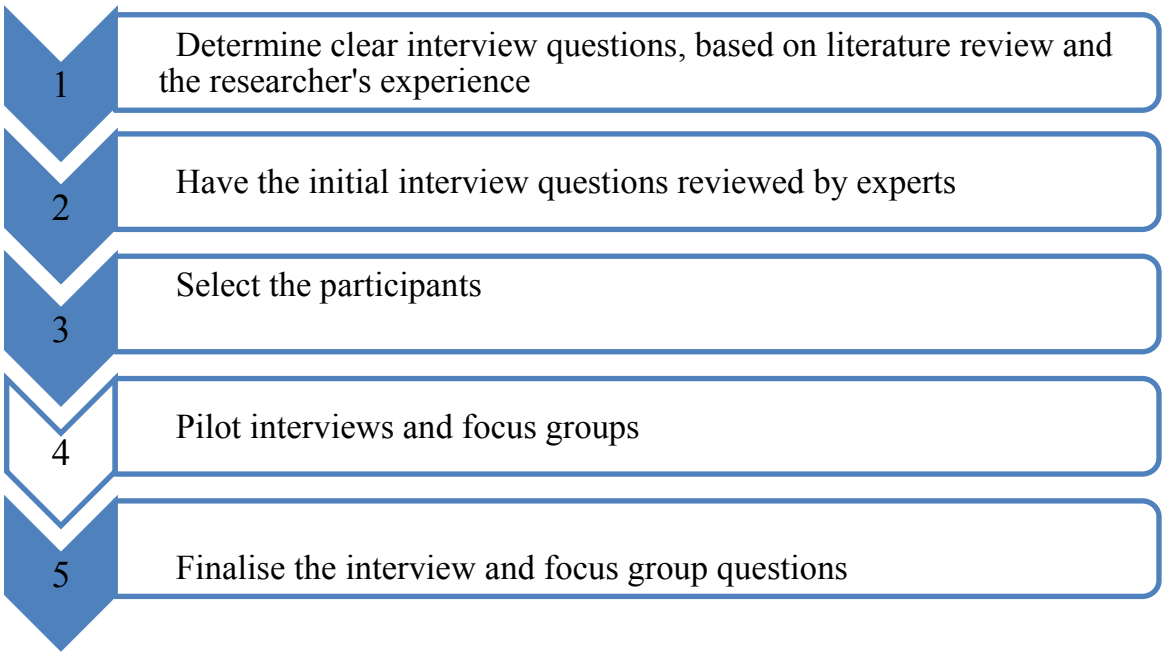

Figure 4-2 Steps in conducting the pilot study

The pilot study aimed to test the interview and focus group questions to determine whether they were clear enough to be understood by the participants. The pilot study was conducted for a number of reasons:

- to see whether the planned data collection procedure and chosen research tools would be effective in collecting the desired data for the main study;
- to identify the limitations of the methods;
- to ensure that the main study could be conducted successfully and to provide an opportunity to work with the potential participants;
- to assess the relevance of the questions and to provide preliminary suggestions with regard to the feasibility of the research;
- to ascertain the time required to conduct each interview and focus group;
- to discover what sorts of findings the study would produce;
- to detect any wording that might be inappropriate or ambiguous;
- to establish the adequacy of the questions to be asked;

- to gain experience in holding detailed semi-structured and focus groups interviews, and to build a relationship with the participants; and
- to obtain skills in interviewing and maintaining the flow of conversation.

4.8.3 Defining clear interview questions

The interviews were guided by open-ended questions on issues related to educational technology, pedagogical technology, technological knowledge, resources, job-related technology, and students learning through ICT in higher education. Participants in the pilot study were also asked about the challenges and the potential of ICT in higher education. Initially, the research reviewed studies on TPACK (e.g., Koehler & Mishra, 2009), on the use of ICT in higher education (e.g., Beetham, 2012), including its challenges and potential (e.g. Alajmi, 2010), and on social constructivism (e.g., Vygotsky, 1978). After its initial preparation, the interview protocol included open-ended questions; the protocol was then emailed to academic staff at Kuwait University for expert review.

4.8.3.1 Have the initial questions reviewed by experts

The academic staff at Kuwait University reviewed the interview questions, examining their clarity, wording and relevance. At this point in the process, a few questions were modified, and some questions were modified during the pilot study, as elaborated in Section 4.8.2.5. The issue of translation will be discussed in the results chapter (Section 5.2.).

4.8.3.2 Selecting the participants

The criteria used to select participants for the pilot study was the same as that used for the main study. The target participants in this study were academic staff and students, along with managers at the MoEIA, so the participants involved in

the pilot study included four academic staff members, 20 undergraduate students (10 male and 10 female), and two MoEIA managers.

4.8.3.3 Pilot interviews and focus groups

The pilot study was conducted in March 2014. Jacob and Furgerson (2012) advised providing an environment that is comfortable for the participant when conducting face-to-face interviews as a research strategy, and they emphasised allocating enough time for a complete and uninterrupted interview. An important consideration is the level of background noise and the degree to which it is possible to obtain relatively clear recordings for ease of transcription. Hence, interviewees were given the chance to select any setting where they would feel comfortable, on the condition that it was also quiet. The interviews with academic staff and managers were conducted in their offices, but for the student focus groups, the researcher booked classrooms at the college. The researcher presented the participants with the consent form when they arrived at the interview venue (Appendix B), and they were asked to read and sign it. He then described the purpose and aims of the study and told them how long the interview would last. All of the participants who agreed to take part gave their formal consent to participate in the research.

4.8.4 Finalising research questions

Carrying out the initial pilot study allowed the researcher to shape and focus the interviews. Questions were rewritten and repositioned in the dialogue sequence, and topical prompts were introduced to prompt conversation on issues as needed. Consequently, the interview guides were revised and edited to encourage responses that would produce a higher quality of data (Creswell, 2013). For example, in the pilot interviews, the researcher felt that the students did not

understand a certain general question regarding lecturing style, but when he asked their opinion on topics such as the curriculum content and the technology used in the educational technology programme, they seemed to understand. As a result, the wording of that question was changed for the main study, replacing the phrase ‘lecturing style’ with ‘teaching method’. The adjustments and edits to the initial interview format were validated by the nature of the responses in subsequent interviews.

The results of the pilot study revealed several strategies that helped to create a relaxed atmosphere for the participants. One strategy was to advise the participants of the study’s values, their significant contributions to the success of the study, and its potential impact. This advice seemed to give participants a positive impression of the study, especially at the beginning of the interviews and focus groups.

Another useful strategy was an ‘icebreaker’ that involved giving the student participants sweets. This had a remarkable effect, easing the students into the focus group process and encouraging them to feel comfortable. Another icebreaker strategy was to encourage students to talk about themselves by asking questions like, ‘What is your name?’ and ‘How many credits have you completed?’ These strategies were useful at the beginning of the focus groups, for two reasons: first, they allowed the students in the group to get to know each other, and secondly, they served as opportunities to learn about the students’ backgrounds for the purpose of validating the research. All the above strategies played a significant role in the context of the pilot study and were also applied in the main study.

4.8.5 Preparing for data collection

In this stage, the researcher approached the programme administration to allocate two rooms in which to hold the focus groups. Because the study was carried out in an institution which implements gender segregation, there was a need to have two different rooms on two different campuses. In coordination with the administration, timetables were created for each campus for each week of the term, so that students could attend a focus group at a time that suited them. (Gender issues will be discussed in section 4.11.)

Ethical consent was obtained before the focus groups started. Participant invitation letters, information sheets and consent forms were distributed and signed, and these included permission to record the discussions. After ethical consent was obtained, each interview and focus group was digitally recorded to ensure accurate transcription of the interviews and focus groups. In addition, a pen and notebook were prepared as a safeguard against potential technical difficulties with the digital recorder.

4.8.6 Checking pertinent policies

In order to have fresh information about the context, and to try to understand the context and the contributions of the participants during the data collection, the researcher reviewed relevant policies, including the manual of the examined programme, the number of modules, the content of the modules and the programme placement tests. The college's policies and regulations regarding student attendance, communication between academic staff and students, assessment approaches and mark distribution were also reviewed. In addition, the MoEIA's vision and objectives were examined, as was the vision of the Ministry of Education and the Kuwaiti government's Vision 2035.

4.8.7 Conducting research interviews and focus groups

This section describes the process of conducting interviews with individual academic staff of the educational technology programme and with MoEIA managers. For convenience, and in compliance with ethical procedures, the interviews were held in the participants' offices after having scheduled a suitable time. The researcher asked the interviewees to read and sign the consent form (which included permission to record the interview), which described the purpose and aims of the study, and informed them of the duration of the interview (Appendices B and E).

The interview questions for academics focused on having them reflect on their knowledge, experiences and beliefs about teaching and learning within the educational technology programme, including what sort of ICT they were using, the challenges they faced in integrating ICT in the programme, and what sort of ICT and pedagogy they thought should be implemented.

Care was taken with respect to the duration of each interview. Jacob and Furgerson (2012) posited that the time should not exceed one and one-half hours so that the research does not interfere with the interviewee's day-to-day commitments and obligations. The interviews in this study took between 40 and 60 minutes each. The researcher conducted the interviews by asking questions and listening carefully to the interviewees. Even though all of the interviews were recorded, some notes were taken as a safeguard against potential technical difficulties with the digital-audio recorders used to record the interviews.

After completing the interviews with all the managers and academic staff, the researcher began conducting the student focus groups. Those who took part were welcomed with icebreaking activities and were offered sweets and other

refreshments. The researcher began by asking them to read and sign the consent forms (Appendix E), which described the purpose and aims of the study, and informed them of the approximate duration of the focus group session.

The questions for the students in the focus group aimed to elicit their views by having them reflect on their learning within the educational technology programme. They were asked about their preferences for, and comments about, the types of technology, resources, and content that they thought would prepare them for the future. With their consent, the sessions were all audio-recorded and transcribed for analysis, as detailed in the results chapter (Section 5.2).

One issue that came up in the focus group was the domination of the discussions by certain students who felt that they had a lot to contribute. When this happened, the researcher tried to politely encourage such students to let others speak by saying, ‘Good point. What do others think?’ or ‘Let us listen to So-and-so [another student]’, or by turning to other student and asking ‘What do you think, So-and-so?’ and so forth. This strategy was largely effective.

4.9 Reliability, validity and triangulation

Validation in a qualitative study is concerned with establishing how precise and correct the study’s findings are, as described by both the researcher and the participants (Creswell, 2013; Ritchie & Lewis, 2003). In other words, validation is concerned with the findings of the study and the accuracy of the analysis.

One strategy used to validate results is to triangulate the data collected in the study (Creswell, 2013; Ritchie & Lewis, 2003). Triangulation refers to using multiple sources to explore the same issue from differing points of view. For the purposes of this study, data was collected from three sources: 1) interviews with

academic staff in the department, 2) interviews with managers at the MoEIA, and 3) focus groups with final-year students. As this study is concerned with uncovering views regarding the programme, applying triangulation was expected to enrich the study data because the participants were expected to have different views and perceptions regarding the programme.

Thick description is another validation strategy (Creswell, 2013). Accordingly, the researcher has attempted to describe the case context in the opening and context chapters, as well as to describe the findings by analysing the themes that emerged from the participants' statements.

In addition to validity, reliability is also important. From a quantitative perspective, reliability means that if the same study were replicated in a different context, the results would be similar (Ritchie & Lewis, 2003). This cannot be applied to qualitative studies, however, because researchers cannot control the variables, and each case that is examined is unique (Cohen et al., 2007). That is why qualitative studies refer to 'dependability' instead; they are deemed to be dependable if a thorough research design and process has been followed by applying a particular set of strategies (Creswell, 2013; Ritchie & Lewis, 2003).

During the interviews and focus groups, the researcher provided the participants with enough time to express their opinions. At the end of each interview, the key points were summarised to ensure that the views of the participants had been accurately captured. At the end of each interview and focus group, the researcher was eager to ask participants if there were any issues they would like to discuss that had not already been mentioned.

4.10 Dependability

One of the strategies for ensuring dependability and credibility is the inter-coder agreement process (Creswell, 2013; Ritchie & Lewis, 2003). In the present study, obtaining inter-coder agreement involved transcribing the interviews and focus groups and then inviting a suitably qualified researcher, in this case a PhD student, to code the transcripts (Creswell, 2013; Ritchie & Lewis, 2003).

The inter-coder process was conducted by undertaking the following set of steps (Creswell, 2013). The researcher invited a PhD student at the University of Reading, whose first language is Arabic, to conduct the coding process on a sample of the raw data. The PhD student was familiar with the coding process because she had used it in her own studies. She was provided with the codebook developed by the researcher, which included the codes of the themes found in the study. The researcher informed the coder about the aims and research questions of the study and explained the goals and the process for obtaining inter-coder agreement, and then he left her to code the samples according to the codebook. When she had finished, both the PhD student and the researcher met again to discuss the coding process and the meanings of the transcripts. After they reached an agreement on these meanings, the researcher reviewed the results of both coding processes (that of the coder and that of the researcher) to establish the similarities and differences between them. In order to ascertain the percentage of agreement, the following steps were applied (Creswell, 2013):

1) dividing the transcripts into two groups;
2) allocating each code (e.g., one issue) in each transcript one point;
3) calculating each theme point separately; and
4) consulting an academic statistician working in the University of the Arabian Gulf in Bahrain, who recommended applying the Cooper inter-coding test.

Accordingly, the percentage of agreement was calculated based on the Cooper formula. The percentage of agreement was high (87%) and thus supported the study's reliability.

4.11 Research ethics

In the last few decades, there has been growing interest in issuing ethical guides and principles to protect research participants and organisations in the real world. The British Education Research Association ethical guidelines for educational research are useful in this regard (BERA, 2011). In addition, the Ethics Committee at the University of Reading has a specific ethical approach that the researcher needed to commit to in order to receive approval to conduct the study. Before undertaking the current study, the researcher obtained approval from this committee (Section 4.8.1; Appendix A).

'Power' is a term used to denote the researcher's influence over the research procedures and findings (Cohen et al., 2007). In the present study, this was an important area to consider because the researcher works in the same programme as the participants, and therefore the current study has a potential 'insider role' issue. Having an insider role has both positive and negative aspects. On the one hand, the researcher had access to the college and the programme, and his cultural knowledge of the college and the department was beneficial for understanding the participants and the context. On the other hand, there are drawbacks to the researcher's 'insider role'. For instance, some academic staff might disclose personal information (such as negative attitudes toward other colleagues) because they trust the researcher with confidential information. Because of the researcher's ongoing relationships with colleagues, it was important to be aware of these potential negative aspects of the insider role (Floyd

& Arthur, 2012). In a bid to manage this issue, the researcher sent the interviewees a copy of the transcription for their approval, giving them the opportunity to confirm their responses (Floyd & Arthur, 2012). Furthermore, it was important for the researcher to recognise that this research was motivated by his concerns about the situation of the programme being examined, and thus he was not approaching the subject as a neutral party.

Although the college implements gender segregation, male academic staff may have offices on the female campus, and they regularly teach female students face-to-face. Thus, in individual programmes and in the wider environment, it is not uncommon for male staff members to teach, communicate with, and interview women students and academic staff.

The educational research arena is bound by a code of ethics because it is set in a social context, and there is therefore a need to protect participants and to exercise ethical practices during the research (BERA, 2011). Since the current study examines issues relating to human contexts, several ethical issues arose, and when that happened, the researcher followed the Code of Ethics and Conduct set out by BERA (2011). Issues regarding respect, confidentiality, informed consent, safeguarding, and gaining access were carefully considered, as detailed below.

4.11.1 Confidentiality, privacy and anonymity

Confidentiality requires that participants' identities, names and details remain anonymous, so the information that subjects provide should also be free of anything that could reveal their own or another's identity (Cohen et al., 2000).

The confidentiality and anonymity of the participants, the case study institution and the ministry were the main priority for the researcher in the present study. To this

end, all participants were referred to by codes like M1 or AC2, and the name of the case study college was hidden. The researcher emphasised that even after the participants had shown an interest in participating in the research, their participation remained voluntary, and they had the right to withdraw at any time. The participants were assured of confidentiality and anonymity, as stated in the University of Reading's ethics policies (Appendix A) and in the forms the participants received (Appendices B, D and E). Prospective participants and interviewees were fully informed in advance of the procedures used to ensure the confidentiality and privacy of their exchanges; they were also advised of the limitations with regard to the kind of information they would be asked to give, and to what extent it would remain confidential.

4.11.2 Informed consent

As Pring (2000) has argued, subjects have certain rights in relation to what they are told about the purpose behind a study. Informed consent refers to 'the procedures in which individuals choose whether to participate in an investigation after being informed of facts that would likely influence their decisions' (Cohen et al., 2000, p. 51).

In the present study, the consent of participants was diligently sought before carrying out any activity or interaction for which it was requisite. All the necessary information relating to the study was provided in clear and simple language to facilitate understanding by the participants, all of whom made their own decision as to whether or not to be involved. The participants were given a consent form, which also invited them to take part in the study; it included detailed information reminding them of the voluntary nature of the exchange and of the meanings and limitations of confidentiality and anonymity. Before each interview or focus group,

these consent forms (which also requested permission to record the discussions) were distributed to and signed by each participant.

The students were identified and invited to participate in the research by intermediaries (Krueger & Casey, 2009): core module academic staff in the Educational Technology Department. However, this raised the possibility that the students might be affected by the researcher's power as a member of the programme's staff, and this might affect how comfortable they would feel about expressing their opinions. The main concern was that they should feel confident to express their perceptions of the programme being examined. The researcher dealt with this issue by emphasising that even after they had shown an interest in participating, their participation remained voluntary, and they could withdraw at any time. The students were assured of complete confidentiality and anonymity, as stated in the University of Reading's ethics policies and in the forms the students received. In addition, the researcher assured the student participants that the academic staff had no power over him and that their participation would remain confidential. Only one student chose to withdraw from one of the focus groups. It was made clear to those who participated that no harm would come to them as a result of their participation in the study.

4.12 Conclusion

The current study is interested in understanding stakeholders' perceptions of the teaching and graduates of the educational technology programme. Since the current study focuses on the perceptions of key stakeholders, it relies upon an interpretivist paradigm.

Such a paradigm led to the adoption of a qualitative approach, which resulted in a case study strategy, with data collected through interviews and focus groups. The

case study strategy and data collection helped the current study to understand key stakeholder perceptions of the educational technology programme. This sort of data collection was expected to give the study participants the opportunity to reflect and express their ideas in their own words in the easiest way, to allow them to best answer the research questions.

Three groups of participants took part in the research: academic staff, students and managers at one of the main organisations where the educational technology programme graduates are employed. Students who were in their final year of study were chosen to participate, because it was expected that they would have the most experience of the programme and therefore would be best placed to explore its strengths and weaknesses.

Ethical issues were taken into account, to protect all participants and make sure that they were fully aware of the study's aims and procedures. At the same time, all participants were completely free to withdraw from the study at any time. Notably, before carrying out the interviews and focus groups, the researcher distributed consent forms, which the participants were asked to sign to indicate their willingness to take part in the study and to have the discussions recorded.

The next chapter will discuss the data analysis, as well as the study results.

Chapter 5: Results

5.1 Introduction

The previous chapter highlighted the philosophy, methodology, and methods followed in this study. This chapter presents the data analysis strategy, along with the findings related to the perceptions of academic staff and students toward the pedagogy, technologies and resources that are, or should be, implemented for an effective educational technology programme. This chapter also presents the findings related to the perceptions of MoEIA managers toward educational technology graduates. Again, the study sought to answer the following sub-research questions:

SRQ1: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by students?

SRQ2: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by academic staff?

SRQ3: What are the perceptions of MoEIA managers about the educational technology programme graduates in higher education in Kuwait?

5.2 Data analysis

The data analysis in this study involved thematic analysis (Braun & Clarke, 2006), as shown in Figure 5.1.

Figure 5-1 Summary of the six steps of thematic analysis
(Buran & Clarke, 2006, p. 35)

Accordingly, a set of sequential steps was followed in analysing the study data, and these will be discussed in the following sections.

Phase 1: Transcriptions and familiarisation

After obtaining the consent of the participants, the interviews and focus groups were all recorded (on audio), with the recordings then stored on a computer in three folders labelled 'academic staff', 'students' and 'managers'. Immediately after recording each interview or focus group, the researcher listened to and transcribed the audio tape. The transcriptions were reviewed a number of times to obtain a comprehensive understanding of the data (Gibbs, 2007). (See Appendix G for a sample transcript.) This transcription process was a very important step because it also created a backup of the data. In addition, the process helped identify specific information from a large data set (Shopes, 2013).

All the interviews and focus groups were transcribed using Microsoft Word text-processing software. The transcriptions for each group of participants were then placed in the appropriate folder (i.e., for academic staff, students and managers), each of which then contained a copy of the audio recording and a document with the transcribed text. During the transcription process, the researcher assigned a code to each of the participants; 'AC' designated academic staff, and 'M' designated managers; each was also assigned a sequential number (e.g., AC1 or M1). Students were interviewed in groups, so their codes were made up of 'FS' for female students or 'MS' for male students, followed by the group number and then a sequential number (e.g., FS-1-1 or MS-1-1).

In the next step, the researcher read all the transcripts several times to build a comprehensive knowledge of the collected data (Braun and Clarke, 2006). During this step, the researcher made some notes about the text and highlighted

interesting phrases or cases, using the comment feature provided in the software (Appendix G). The researcher reflected on the data to gain an in-depth understanding of the similarities and differences across the data (Braun & Clarke, 2006). The transcription process was time-consuming, but it helped the researcher to critically evaluate the data (Braun & Clarke, 2006). A list was made to help focus on the types of issues and themes that should be coded in the next step (Braun & Clarke, 2006).

Phase 2: Generating initial codes

The researcher carried out an initial round of the coding process manually, during which all relevant parts of the transcriptions were coded to determine which ones fit into the following categories:

Category 1: Participants' experiences (e.g., their descriptions of current technology).

Category 2: Participants' perceptions (e.g., their attitudes towards current curriculum content deemed to be 'outdated' and 'useless').

Category 3: Participants' strategies regarding the issues studied (e.g., the experiences of academic staff in relation to changing standard content from manual to digital).

Category 4: Consequences (e.g., having a weak curriculum content leading to weak outcomes).

All of the texts coded in this process included either manifest or latent content (Braun & Clarke, 2006), and the data was coded based on both data-driven and concept-driven data (Bryman, 2012; Gibbs, 2007). This process focused on the

study's research questions and aims, as well as the concepts derived from the literature and the data.

Whenever the researcher discovered an interesting comment or statement, notes were made using Microsoft Word's comment feature. It is important to note that one statement could be coded either for one theme or for multiple themes, as long as it matched each theme. Once all the transcriptions were coded, similar codes (e.g., curriculum content codes, technology codes, etc.) were grouped together. Eventually, broader meaningful themes developed; this is demonstrated in the next section, which describes the phase in which the themes were constructed.

Phase 3: Searching for themes

In this phase, each group of codes was analysed to create a meaningful theme. Each group of codes was revised after determining the similarities and differences among them, identifying the correlations among them and deciding if they could be integrated into an existing theme, or whether a new theme had to be created (Braun & Clarke, 2006).

This process continued until all the data was matched to themes, and then a set of themes was constructed to determine how to clearly, logically, and understandably name the themes.

Phase 4: Reviewing themes

In this phase, each of the constructed themes was revised to determine which themes were meaningful. This step included two levels of revision (Braun & Clarke, 2006). At the first level, each of the theme statements was read and revised to make sure that the statement represented only one issue or idea. At the

second level, all the themes were revised based on the extent to which they reflected the dataset.

During this process, the set of themes was constantly revised to create meaningful themes and to ensure consistency between the actual data, the sub-themes, and the main theme, as well as to determine the extent to which the themes were coherent (Braun & Clarke, 2006).

Phase 5: Defining and naming the themes

Once all the themes were constructed, and it was verified that the actual data and themes matched and that the theme presentations were logical and understandable, the themes and their sub-themes were applied (Braun & Clarke, 2006). As such, each theme (grouped as statements – i.e., theme and sub-theme) was read to identify its core meaning (Table 5.1). In this way, the themes and sub-themes were named (e.g., current pedagogy; outdated content, technology that should be implemented; studying via websites, etc). In addition, the general idea of each theme was explained, and the explanation was placed at the beginning of the appropriate section in Chapter 5 (e.g., Section 5.3.3).

PARTICIPANT CODE	CODED QUOTATIONS	SUB-THEME	THEME
AC1	The formal curriculum content is too old…	Outdated content	Curriculum content issues as viewed by academic staff
AC2	I don't agree with the current curriculum content because it is too old… It must be reviewed. For example, manual transparency sheets - it is not aligned with this era…		
AC3	Unfortunately our curriculum content has to burn… old, obsolete… has no relation to the reality… backwards… out of date		
AC4	I think many of the modules are old and not updated		
AC5	Inevitably, the curriculum content has to be changed because it's too old: for example, manual photographs in the time of digital		
AC6	It [i.e., the curriculum content] is inconsistent with the new technology and is not related to the current reality… Unfortunately, it is generating students who are unprepared for the job market (disappointed)		
AC7	The course has nothing…		
AC8	Frankly, the curriculum content is inappropriate and is not aligned with the current job market. For example, the module for creating transparency sheets and the educational board are useless… still the manual method and is not aligned with the job market		
AC9	Useless (i.e., curriculum content)		
AC10	Current curriculum topics are old and have not been reviewed since ages ago…		
AC11	It [i.e. the curriculum content] is too, too bad, and the reason is because they are very old. Since I graduated, they are the same, despite the fact that it's a very dynamic subject (i.e., educational technology)		
AC12	There are plenty of modules that are too old and need to be reviewed, like puppets consuming time and effort, and we can use much easier ways like graphics software….		

Table 5-1 Example of constructing and revising themes for academic staff data

The list of themes and sub-themes that emerged during this step is set out in Table 5-2.

STUDENT THEMES AND SUBTHEMES	ACADEMIC STAFF THEMES AND SUBTHEMES	MOEIA THEMES AND SUBTHEMES
Current Pedagogy: · Outdated content · Mismatch between content and the job market · Theoretical rather than practical content · Inconsistency in content as taught by different staff	**Current Pedagogy:** · Ineffective	**Perceptions of MoEIA managers regarding the programme graduates:** · Dissatisfaction with the provision of educational technology · Mismatch with the job market
Pedagogy that should be implemented: · Switching to a wholly digital curriculum	**Pedagogy that should be implemented:** · Blended learning · Digital curriculum content	**Perceptions of MoEIA managers regarding the required skills:** · MoEIA expectations
Technology: · Current technology: a lack of communication in an era of technology	**Current Technology: A lack of technology**	
Technology that should be implemented: · Studying via websites · Learning and communication through social media	**Technology that should be implemented:** · Learning and communication via social media and websites	
Resources: · Current resources · Resources that should be made available	**Resources: A lack of resources** **Resources that should be offered**	

Table 5-2 Themes and subthemes that emerged from the thematic analysis pants

Phase 6: Producing the report

Once all the theme tables were finalised, the researcher began to analyse the data and explore the meaning of the content. The aim of this phase was to render the complex data into a sequential and coherent narrative, i.e., a story. Extracts from the data were taken as exemplars to demonstrate and support the findings. All excerpts were placed within an analytical and sequential narrative that went beyond the raw data, in an attempt to construct arguments about the information that would be relevant to the initial research question.

For validity purposes, all expository excerpts were translated based on Brislin's (1970) model. First, they were translated from Arabic into English by a bilingual (Arabic/English) PhD student, and then they were translated from English back to Arabic by another bilingual (Arabic/English) PhD student, who did not look at the original Arabic text. Finally, the English translation was compared to the original Arabic version by a bilingual expert (Arabic/English), to check its accuracy and equivalence.

5.3 Results for SRQ1

This section presents the findings related to SRQ1: *What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by students?*

This section reports on students' perceptions of the implementation of pedagogy, technology and resources in the educational technology programme, as well as the sorts of changes that should be made in relation to these elements. Hence, the section is divided into three main sub-sections: 1) pedagogy, 2) technology and 3) resources.

5.3.1 Pedagogy: Current pedagogy

The pedagogy theme consisted of the teaching approach and the module content. The analysis of the focus group data revealed that all of the students (N=78) believe that the educational technology programme has major pedagogical issues. There is full agreement amongst both female and male students regarding various pedagogical issues associated with the programme.

5.3.1.1 Outdated content

In relation to the sub-theme of outdated content, all of the focus group students were very critical of the content provided by the educational technology programme, and they expressed concerns that the current curriculum is outdated. When discussing the curriculum content, they used words like 'very old', 'useless', 'old-fashioned', 'silly', and 'outdated'. FS-1-5, a female student with IT knowledge, elaborated on how the curriculum content was outdated.

> *On the equipment module we study old devices that I suspect exist neither in the university nor on the market—an outdated device! (FS-1-5)*

MS-6-3, a male student with good IT experience, wondered why they did not study digital technology.

> *The [course] contents are useless and we're now in the iPhone and iPad age. Why don't they teach us how to use the iPad in our studies? (MS-6-3)*

5.3.1.2 Mismatch between content and job market requirements

Just above one-third of students (35%, n=28) believed that they do not have the technology skills needed to enter the job market, and they contended that the programme modules need reviewing; the rest of the students did not comment on

employability. These students (35%, n=28) agreed that this is because the programme modules are inconsistent with the demands of the labour market and that the old methods – for example, their use of transparency sheets and old-fashioned educational resources like wall educational boards – do not fulfil the requirements of today's job market. FS-8-4, a female student who has three modules remaining before graduation, said:

> *There are some courses that have no relevance to the labour market! Much like the transparency sheets…. Unfortunately, it's manual and not computer-based. (FS-8-4)*

MS-3-1, a male student who has four modules to complete before he graduates, confirmed that they do not have the technology skills needed to enter the job market:

> *Very old! For example, I study puppetry and the manual board module for a whole term. We are now in the age of technological advance. You could study these modules by way of 3D software. But as for manual work it's become old-fashioned and no longer required even—why should we regress? (MS-3-1)*

Some students (32%, n=25) explained that the predominant content of the programme requires them to produce manual designs, which involve using squares and cutting cork by hand. These students asserted that in the present day and age, computers should be used for design; for example, by designing educational board modules using 3D programmes instead of manual model-making. FS-8-5, a female student with good IT experience, highlighted this, stating:

> *That's correct, Abdullah. In the model-making course the instructor tells us to make a camel from cork; assuming I did this and presented it to a student he'll just throw it because he won't*

acknowledge this type of format. These days there are three-dimensional programs that produce artistic images much better than handmade models. (FS-8-5)

Some students (7%, n=8) were critical when talking about the use of technology in the programme. They were confused as to how the programme could be termed an educational technology programme when there was no trace of technology in the content. FS-8-1, a female student who is knowledgeable about IT, and who has two modules to go before she graduates, gave this critique:

The technology we use now doesn't deserve the name 'specialisation'! The technology, the devices and the courses are old, like the projection lantern and the slideshow device, and the model-making, puppetry and transparency sheet courses, and I don't think any of these things are requirements in the job sector. (FS-8-1)

5.3.1.3 Theoretical rather than practical content

A number of students (26%, N=21) reported encountering pedagogy issues because they studied technology in a theoretical way rather than hands-on. The students expressed negative attitudes towards the teaching approach that the academic staff use in the classroom. The students claimed that the content is not presented through practical application; instead, everything is purely theoretical. They stated that they had to bring their own computers because the computers at the university do not work properly, and the software is outdated. In addition, they reported that there are no field trips and no discussion takes place. One student criticised the way the subject of technology is taught theoretically:

The courses we study are theoretical: we don't do anything practical; the reason being the absence of sufficient apparatus. I now bring along my personal computer so that I'm able to study because the

available computers don't work well, have viruses, and have either old software or not enough, which is a problem….

Some members of staff do not entertain any form of discussion: we just read the notes or the course book, and he explains the points he has to make, without listening to us. (FS-4-2)

Some students (12%, n=10) expressed confusion regarding the use of theoretical study for practical modules. An example was given of a teaching design programme module that was taught theoretically:

Some courses are supposed to be taught practically. Why is the course on designing teaching programmes theory-based? (MS-9-3)

To sum up, about one-third of the students confirmed that the studying that takes place in the educational technology programme is theoretical rather than practical. The rest of the students did not make any comments about the theoretical delivery.

5.3.1.4 Inconsistency in content among different staff

Another pedagogical issue raised by some students (12%, N=10) was the lack of congruity in content, with students reporting negative experiences due to disagreement amongst academic staff regarding the content that should be taught in the required modules. According to the students who raised this issue, this hinders their progress because some academic staff refuse to teach students anything they may have missed in a previous module, so the students themselves are responsible for picking up any skills and information that were not covered. These students described how they have been unable to study some new modules because they are missing skills and knowledge that should have been covered in the previous module but was not. The students explained that the modules usually are not all taught by the same instructor, and that different

members of the academic staff have their own methods, procedures and pedagogical approaches. For example, there may be a digital computer skills module for graphics and then a purely manual module for puppet making, and so on. The students expressed frustration with the lack of integration of the module content, which makes studying more difficult. They believed that the curriculum content depends on who is teaching the module, and thus the modules are not consistent. If the module tutor is more up-to-date on digital technology, for instance, the students will study digital technology, but if not, they will be presented with older information, as described by MS-9-4, a male student who has three modules left to finish his studies:

> *The lack of integration with regard to the modules between the books and the notes, not to mention the lack of conformity with them! For example, there is no standardisation between the topics and the books in a single module to the extent that the set text or the notes can change with the arrival of a new instructor, and even if a particular book or set of notes is specified they are not abided by. They only want us to buy books or notes and then say that what I am saying to you now is what you will be tested on. (MS-9-4)*

5.3.2 Pedagogy that should be implemented

5.3.2.1 Switching to a wholly digital curriculum

Over half of the students (53%, N=42) viewed a potential switch to a wholly digital curriculum as a useful change to the delivery of the educational technology programme; they emphasised that rather than studying manual, outdated content, they should focus on digital content in the form of computers and software, such as graphics and media software. In this vein, the following quote represents the typical perceptions and recommendations of students in the 16 focus groups,

regarding the current content of the programme. MS-8-4, a male student who has two modules to go before he finishes his studies, commented:

> *I think the subject modules need to be updated. The board, puppet and transparency sheet modules should be replaced with computer modules as there is a great deal of software with three-dimensional features that can serve those purposes more effectively… Students today already have iPads and iPhones... Therefore, the module content should accommodate their current skills and familiarities… and new software, such as Acoustica sound, the Sketch Apps program and the flow Apps planner, should be used. Such software might also present some challenges, but it would be much better than what we are currently studying. (MS-8–4).*

These students suggested that digital content within the programme would help prepare them for the job market. For instance, they expressed a desire to study 3D filmmaking, so they wanted high definition (HD) televisions, rather than standard definition televisions, to be supplied; they also expressed a desire for photography and graphics software to be made available. MS-3-1 and MS-3-3 are male students with two modules to go before they finish their studies; they both have good IT experience. Their quotes exemplify the finding regarding the need for digital content within the educational technology modules:

> *We should be taught new content like modern programs, like Photoshop. (MS-3-1)*

> *We want to study 3D filmmaking and we want the televisions updated to HD, with photography and graphics software. (MS-3-3)*

It was noted that over half of the students (53%, N=42) in the 16 focus groups felt that a transition to digital studies would be an appropriate change for the educational technology programme. This might be because they already had access to computers, smartphones and the Internet outside of class. Importantly,

as software is now very advanced, educational technology students should develop their skills—such as those relating to the media and educational board modules—via state-of-the-art computers and various types of software.

5.3.3 Technology

Across all of the student focus groups, a key theme emerging from the data was a sense of frustration about the over-reliance on face-to-face communication. Although they are living in the 21st century, and technology is ubiquitous, they feel there is a lack of technology used in their programme. For example, they still need to physically travel to the university campus to communicate with the academic staff face-to-face. Therefore, two themes that emerged from the data were the lack of communication via technology (Section 5.3.3.1) and the need for new technology to be implemented in order to ensure effective learning and communication (Section 5.3.3.2).

5.3.3.1 Current technology: A lack of communication in an era of technology

Just under two-thirds of the students (63%, N=49) reported feeling frustrated at the lack of sufficient avenues to communicate with staff, because face-to-face interaction is their only formal means of communication at the college. Such interaction only occurs during lecture times and the instructor's office hours, and the students reported feeling compelled to approach academic staff during lectures, given that some academic staff do not maintain regular office hours and hence can be contacted only through lecture-time conversations. In fact, 82% of the female students and 45% of the male students reported a lack of time for face-to-face communication with some of the academic staff, who mainly communicate with students during lectures and neither commit to keeping regular office hours

nor engage in social media such as WhatsApp. The statement below, by a female student with good knowledge of IT, is typical of the students' opinions on this topic:

> *I hate that some academic staff are hard to approach… they can only be accessed in the classroom or in their offices… no Twitter, no WhatsApp, no Facebook, no email. I like those academic staff who use WhatsApp and Twitter because such platforms are easy to use and ubiquitous. (FS-8-4).*

In addition, many students (63%, N=49) stated that they had access to smartphones and computers but could not use them for their studies because the staff do not use those technologies. The title of the programme does not reflect its actual nature, since technology (such as social media, email and websites) is not used. Demonstrating how the students perceive the current use of communication technology within the programme, a male student said:

> *Honestly, it's weird for me how come [he is an] educational technology staff member and he does not use new means of communication… there are some of them using WhatsApp, and this is needed… especially [as] we all have smartphones and computers… and it's very quick. (MS-9-1)*

The college's regulations stipulate that academic staff must give regular lectures and designate office hours for their students, but there is no mandate to communicate via digital technology such as WhatsApp and email; therefore, the choice to do so lies with the individual staff member.

5.3.3.2 Technology that should be implemented

5.3.3.2.1 Studying via websites

The analysis of focus group data revealed that some students (28%, N=22) study via a virtual learning environment, using Moodle or websites provided by Google or others, that contain module information including lecture dates and their associated topics, past assignments and voice recordings of previous lectures, and that facilitate online discussion. The students reported various advantages associated with studying via websites: they are easy to access via either PCs or smartphones, they serve as a backup for missed lectures due to the provision of voice recordings, and they provide clear maps of the various modules. One male student, who is knowledgeable about IT, described some of the advantages of such websites:

> *On the website, I was made aware of everything I would gain from studying the module, and the module image was clear in my mind: lecture topics, dates and times, exams, project dates and marks were all clear… The module map was delineated, and I was comfortable with it. (MS-4-2).*

While students reported positive experiences with study websites in general, they also noted several technical issues; for example, there were compatibility issues related to displaying the website content on smartphones.

According to those students who study via online websites (28%, N=22), doing so makes their learning easier. For example, websites may contain projects completed by past students, which are made available as samples. Students can easily access their personal information such as attendance records, academic achievements and marks, which is more convenient than having to travel to the university and find the information. Lecture times and subjects are also specified,

so using the website ensures that the outline of the module is clear in the minds of the students, and this clarity makes them feel comfortable with the module. Students find this technology useful, as one female student elaborated:

> *I had studied with one instructor who had a good method of using online resources. At the end of every lecture, he would upload what he had explained during the lecture, and I benefited a lot from this even if I was absent; whilst if I was present, it became part of my revision for the exam. (FS-3-5)*

From the above data, it is clear that for some of the students, using a website would be a useful change to the educational technology programme.

5.3.3.2.2 Learning and communication through social media

Generally speaking, all of the focus group students are optimistic about learning and communication through social media – as may be expected since they are all enrolled in a course which is related to e-technology. They used a variety of positive terms when talking about social media, including ‘excellent’, ‘useful’, ‘beautiful’ and ‘good’.

The students’ experiences with social media as a communication and learning tool at university were examined by asking them to share their experiences with these tools and describe how they use them with their classmates or academic staff members. The students expressed their familiarity with various social media tools, applications and formats, including WhatsApp, email, Twitter, blogging, Google Docs, and video content and sharing.

Across the 16 focus groups, the majority of students (83%, N=65) had used WhatsApp, and they saw both advantages and disadvantages with it. As for the positive aspects, they pointed out that WhatsApp provides instant messaging and

that everyone has access to WhatsApp, which is an easy-to-use application, through their smartphones. They found it useful for student–student and student–academic communication, as well as for peer-to-peer feedback, exchanging module materials such as YouTube links and PDFs, and asking about project deadlines and chapter exams.

> *WhatsApp is really good and not only for chatting, but it's also great for sending voice messages, video clips, and images… I expect that the instructors should use this sort of technology… as we all have smartphones… I am sure all academic staff have it... (MS-8-4)*

One way that academic staff use WhatsApp is for creating groups for each module and adding students to the group so that they can communicate and exchange module-related information and materials. Alternatively, the students themselves can create a WhatsApp group for the module, with the module tutor nominating one of the students to be the group coordinator. If the tutor needs to send an announcement or extra information, he or she sends the information to the coordinator, who then forwards it to the module group, so that all group members can see the post.

A majority of the students (83%, N=65) considered WhatsApp to be a useful app and said that it enables them to have faster and easier communications with those instructors who use it. The following comment made by a female student refers to a case where academic staff had created groups in order to facilitate interaction with students:

> *Honestly, I have had an excellent experience [with WhatsApp]… the academic staff created the group and she was active and answered our questions and told us not to post anything unless it was related to the module…. No side chats were to take place within this group. (FS-4-4)*

The students (83%, N=65) preferred to communicate using WhatsApp because they, and most of the academic staff, have smartphones. Moreover, the app can be accessed at any time, is easy to use and provides the ability to instantly and directly contact the intended recipient. The following quote from a male student demonstrates the advantages of WhatsApp from a student's point of view:

> *WhatsApp is frequently used at the college because everyone has smartphones with WhatsApp installed… Furthermore, it is easy to use, and recipients get the messages instantly because they always carry their mobiles… (MS-6-5)*

Students (32%, n=25) stated that by using WhatsApp, they can confirm ahead of time whether a lecturer will be present on a specific date, find out about the dates of exams, and receive information related to the module. Students find this means of communication better because some instructors might not adhere to their stated office hours; one male student commented:

> *We're all from several different places in Kuwait. I myself am from Saudi Arabia, so the technological means of communication have made things a lot easier. At the very least, if the instructor is not able to attend the lecture, then he sends a message via WhatsApp, and that's it. If there was a WhatsApp group, I would have asked and been answered without any time wasted. (MS-8-2)*

Some students (20%, n=16) also reported disadvantages of WhatsApp, including students chatting about unrelated topics, making jokes and pulling pranks. Problems can arise because of the way a message is interpreted, delays in sending and replying to messages, and privacy issues associated with sharing mobile numbers.

The data reveal some encouraging examples of the use of email by staff. About one-third (28%, N=22) of the focus group students use email for submitting

module assignments, arranging meetings and obtaining feedback. The following statement was made by a male student and is representative of those students who arrange meeting times with their academic staff via email:

> *Academic staff use email in order to arrange meetings with students…this is more convenient than going to the college and not being able to find the academic. (MS-1-1)*

One-third of the students prefer to communicate with their instructors through email. Instructors use email to respond to their students' questions and also to send feedback or learning materials. A male student who is knowledgeable about IT narrated his positive experience with one instructor:

> *I had a positive experience with using emails for communication with my instructor. He would use email with us in all aspects related to the module, including updates. From time to time, he would send us a document that benefited us in relation to the module, and he would send YouTube videos, too. It was beneficial. I think it's better than WhatsApp. (MS-3-2)*

Other students explained that they find communication through emails especially useful for arranging appointments, as opposed to going to the college and not knowing whether they will find their instructor or not. However, they expressed their frustration regarding instances when the instructor did not reply or the communication is poor. A female student commented on her experience with using emails as a tool for communicating with her instructors:

> *The academic staff use email [to communicate] with us, which is a way of receiving and arranging appointments, so instead of going to college and not knowing whether I will find them or not, I send an email and we arrange an appointment. This way it's better… There are some academic staff who create WhatsApp groups, which is beneficial, saving time and energy… aside from that, communication*

is weak, frankly, and we want to ask and inquire but don't find them in their office. (FS-1-1)

Another group of students (8%, n=7) reported other problems with communication with instructors, They mentioned incidents when instructors claimed not to have seen an email or message, and they worried that they might lose marks due to this lack of communication. The following quote from a female student is typical of the experience of students who tried to approach their instructors:

I disagree with you, because communication is weak, especially when we want to inquire with them outside lecturing hours, whereas we are able to communicate with the academic staff who use WhatsApp… especially since it has become popular… and they interact with us most of the time. (FS-6-1)

The same group of students (8%, n=7) reported another problem in communicating with their instructors: instructors who invite students to send them an email if they need something but then do not always respond to such requests for assistance. One female student said:

Our instructor doesn't respond, and we tell her that we've sent her an email. She responds by saying that she told us to send an email; but she doesn't open them. So why did you tell us to send an email when we need anything? She's the one who teaches us practical, but when we apply [what we've learned], we discover that the steps [we've taken] are incorrect. So she goes online and searches for websites to find out the correct method to explain [the matter] again. A lot of time passes, and we haven't done anything, and if we express our discontent with what's happened, she informs us that she has six children! WhatsApp and email are definitely good because everyone uses them—I mean WhatsApp. (FS-8-2)

A number of students (28%, N=22) suggested that YouTube has the highest potential for improving their learning and engagement with a subject both inside

and outside of the classroom. They stated that YouTube facilitates sharing of content with peers, enables discussion and allows new content to be learned in a very short time. One of these students elaborated on the advantages of using YouTube:

> *The advantage of YouTube is that there are clips in Arabic and introductions from young Saudis that are easy to understand, and to be honest, they are innovative in the way they introduce the matter. I used to reduce the screen size on YouTube and follow the programme step by step. My classmates in the WhatsApp group were asking about some skills, and I used to help them by taking a screenshot of the clip and then sending it to them. It was a great experience! (FS-8-3)*

Students also commented on their instructors' practices and lack of guidance when using technology, noting that although some instructors do use YouTube, they do not use it in the right way. A female student, who has two modules to go to finish her studies, gave an example of a negative experience with an instructor's lack of guidance:

> *For example, I would be taking the computer module, and the instructor would enter and tell us that we would be learning such and such program, then he would instruct us to open YouTube and learn. He wouldn't explain, yet he would grade us on the skills. In the first place, I haven't been taught correctly. (FS-2-1)*

A minority of students (8%, N=10) found blogging with their classmates, in relation to their modules studies, to be useful for guiding them regarding the materials being studied and for getting answers practical questions about exams, timetables, etc. One male student commented on this topic:

> *The blog was also great, and I had used it previously with another instructor. It would present all the information and questions related*

to the module, including the dates of exams, deadlines for projects and lecture timetables. It was very beneficial. Sometimes you look for an instructor for two days, and it's a lot of anguish! (MS-8-2)

In the aforementioned data, the focus group students confirmed that they use digital technology for communication and learning purposes within the educational technology programme. At the same time, they brought up many technical and behavioural issues related to the use of this technology.

5.3.4 Resources

All of the students in the 16 focus groups agreed that the resources currently available in the educational technology programme are inadequate and outdated, and they mentioned many resources that should be incorporated within the programme to make it more effective.

5.3.4.1 Current resources

The students asserted that the absence of adequate resources is the reason why their studies are only theoretical. They reported that there is currently no Internet service on campus, and that the campus has only 50 computers for the entire student body. They complained that the computers do not work properly because of viruses that infected them many years ago. As a result, they do not trust the campus computers and prefer to bring their own hardware to work on their projects. A female student with three modules to go to finish her studies explained:

We do not use the campus computers because they do not work properly and sometimes spontaneously cut out, as they are full of viruses. As we are working on a project basis, it is difficult to finish the whole project in one go, therefore I always bring my own PC and save all my projects on it… There is no Internet access. I hope that in time, as our courses develop, the technology will catch up to

modern standards. The teachers in our schools are now using iPads and computers. (FS-1-5)

The students recalled being confused during the technology devices module, when they were taught about interactive whiteboards from textbook pictures provided by some of the academic staff (without being given access to whiteboards). In addition, there is no fully-equipped media studio, so the students lack practical knowledge about media skills. Many of them confirmed that they did not even learn how to hold a camera because there are no functioning cameras – even though they study media modules. The following quote from a female student illustrates this issue:

We were taught about smart boards without ever seeing them… We were taught what they are, their parts, and their advantages and disadvantages… a theoretical but not practical study. (FS-1-2)

The students bring their own devices, as do the academic staff, so they can work with classmates on projects and take notes while attending lectures; what's more, they even bring in their own mobile Internet routers to share. One female student, who is knowledgeable about IT, elaborated on the negative experiences of bringing her laptop to university every day in order to make her learning easier:

Yes, we are forced to bring our personal computers, although there is no Internet in the building… there are some instructors who put in extra effort and bring in some new technology, who explain using [PowerPoint] slides. I like this method because it condenses the content… likewise, the studio is not equipped. (FS-2-3)

5.3.4.2 Resources that should be made available

All of the students insisted that, in order for them to learn effectively and to gain technology skills, the computer rooms should be furnished with essentials like up-

to-date, functioning computers and Internet access, and the media studios should have state-of-the-art equipment. Two students, one female and one male, both with good IT experience, explained these requirements:

> *It's also important to equip the laboratories [i.e. computer rooms] with the necessary equipment, like workable computers and the Internet, and a big screen so students can follow the instructor; these are the basics, no more. (FS-3-1)*

> *We want a studio for television that corresponds to the theoretical side. We currently study only theoretically. What we would like is for them to equip a studio, we want to learn… updating the resources is required because they are really old; the television is old and outdated and doesn't have an HDMI port, only an AV/TV cable port. (MS-3-2)*

Almost half (45%) of the students agreed that classrooms need a modern computer and a digital screen or smart board, since the instructors teach by illustrating lessons on digital slides (usually PowerPoint). Students argued that this is not difficult nowadays, since technology is ubiquitous; one female student asked:

> *Why don't we use new methods? People now use computers and data show…, so why are we [still] using old stuff? (FS-3-2)*

5.4 Results for SRQ2

This section presents findings related to SRQ2: *What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by academic staff?* All academic staff members criticised the educational technology programme content and made suggestions for improvements. Therefore, two main themes

emerged from the data analysis related to SRQ2: the existing pedagogy, and pedagogy that should be implemented.

5.4.1 Current pedagogy: ineffective

All of the academic staff interviewed raised several pedagogy issues in relation to this sub-theme, which encompasses current content and demands of the job market, as well as outdated content.

All academic staff members participating in this study made strong criticisms of the programme content in relation to the demands of the job market. They reported that the available modules do not match the requirements and demands of the labour market, which requires more advanced graphics and computer programs. This female academic staff member, who has 20 years of teaching experience, elaborated on the relationship between the demands of the labour market and the content of the technology programme:

> *Imagine, for example, educational illustration hasn't changed since I studied it! On top of that, the way it's taught is very basic… manual even. The labour market does not demand, and does not want, these skills now. Modern technology is what is required, alongside graphics and computer programs. Personally, I don't teach my students this manual way, but I do teach them PowerPoint and Photoshop to make educational illustrations, and the work is purely electronic. Printing illustrations costs. I assign my students a project by computer only. (AC11)*

Over half of academic staff (58%, n=7) disclosed that some modules were improved superficially, simply by changing their names, as with Computer Modules 1, 2 and 3. All the academic staff believed there is no desire in the labour market for the content that they currently teach, especially not puppetry,

transparency sheets, and obsolete devices. One male academic staff member, who is knowledgeable about IT, made a useful comment in this regard:

> *Honestly, the department modules need revising, and we have previously carried this out. We decided that they are unfit for the labour market, like the transparency sheets and board modules, and the old methods do not fulfil the requirements of the market. For example, they ask the students to produce handmade designs, and enlargement by using squares, and cutting cork by hand, especially when these things take time and drain effort, and they are not art education students. (AC8).*

Some academic staff members (33%, n=4) pointed out that it is not right for the course of study to be titled 'Specialisation in Educational Technology' when its modules include puppetry and model making. A female academic staff member with 20 years of teaching experience elaborated that it is impossible to teach a whole term on transparency sheets. She argued that it may be fine to present them as part of the history of their field and to convey simple, practical information about them so that students are aware of them, but it is unreasonable to teach them today to produce transparencies. She went on to recommend teaching digital technology:

> *Really, really bad! The reason for that is the syllabus is old; the specialisations are the same as they were when I graduated in the 1990s. The specialisations are in similar way to the educational technology. There are many innovations, and the Arabic language or Islamic specialisations are not unchanging or unevolved. The specialisation is educational technology and many technological and software innovations that have appeared, and so on. (AC6)*

All academic staff believe that the module content must be changed to improve it. For example, the students could begin not only with the Office bundle but also the

Adobe bundle, progressing from basic to more advanced levels. The titles of the modules could be changed; for example, it was suggested that Computer 2 Module could be renamed Computer Photoshop, and Computer 3 renamed to Computer Animation. This way, the module name would remain computer-based but it would now indicate the module's content. Academic staff also believed that new modules, such as website design and electronic education, must be introduced. The staff explained that these subjects exist in the field, so in addition to staying abreast of the job market, this would also keep students informed about new developments. AC2, a male academic staff member with 30 years of teaching experience, said:

> *The courses have not been developed or updated. Furthermore, they do not satisfy the requirements of the labour market. Where are graphics? We don't have graphics, and it's in demand in the labour market, and all the television and media organisations need these subjects a lot. Unfortunately, they are not taught here, although some colleagues strive to introduce some graphics programs into the syllabus unofficially… Smartphones and apps—who uses them at the moment? Who develops them? Many people do; however, it could be possible to introduce the specialisation of educational technology in this field by way of not only developing but designing these apps. (AC2)*

Three of the academic staff members (25%) reported that aside from the Educational Technology Department, all of the departments in the college have been improved. They thought the reason for this was that the curriculum committee for the Educational Technology Department does not fulfil its role as required.

5.4.2 Pedagogy that should be implemented

5.4.2.1 Blended learning

Most of the academic staff (83%, N=10) viewed blended learning as a promising mode of delivery for educational technology subjects, because of the advantages of mixing face-to-face and online learning options, and because it offers flexibility in terms of the time and place of learning. Academic staff are aware that changing from face-to-face to blended learning would not be an easy task, and their recommendations for this process involve building a whole new system rather than just adding this one concept to the existing system. Blending learning must be presented as a comprehensive system if it is to achieve the promised benefits for design, implementation, maintenance teams, facilities and academic assistance, because the online teaching portion needs extensive time for preparation and follow-up. Academic staff mentioned the following benefits of blended learning:

1) It is useful for students and their families because of its flexibility in terms of time and place.
2) Students can quickly catch up on lectures they missed by downloading them from the module website, saving time for both students and academic staff.
3) It allows academic staff time to conduct research.
4) It provides opportunities for both face-to-face and online learning.

The academic staff also recommended policy changes before applying blended learning, to ensure consistency and eliminate certain challenges, such as the time-consuming issue of taking attendance manually, as well as the lack of

resources, facilities, and training in the blended learning system amongst academic staff and students.

While they do advocate adopting a blended learning system, these academic staff do not support moving to completely online instruction all at once; they prefer a gradual change so they can monitor the process to make sure things are handled correctly and so they can familiarise themselves with their students. Currently, they use a traditional system, and in general, the students do not engage effectively. With blended learning, classroom instruction is combined with the use of digital materials; it is not necessary to explain every point, as the students are expected to follow up and perform their tasks individually or in groups. Academic staff stressed the importance of blended learning in dealing with social pressures and student needs.

On the one hand, some academic staff members argued that blended learning is a useful educational system for Kuwait, and that it is a prerequisite for a comprehensive system addressing policy and resources. In principle, to make full use of a blended learning environment, it is necessary to study the percentage of time spent in class as compared to that spent in self-study. It is also very important to pay attention to the nature of the materials, infrastructure, networks, maintenance of equipment, and virtual learning environment. In regard to teaching educational technology, the staff agreed that there should be an audio studio, professional maintenance for the TVs, and lecture halls that are equipped with the necessary facilities (e.g., digital projectors and a sound system, as well as screens linked to the hall's computer). The academic staff are fundamental to the success of such a project; it will only succeed if they understand and support it. One male academic staff member commented on this topic:

> *I think that blended is the best, and the reason is that [this] society does not accept online culture. Another reason is that Arab references do not improve. This book, for example, has not been revised since 2005 maybe; in 10 years it hasn't been updated. In technological terms, 10 years is a long time. This is not the case in the West, nor is it in Asia, and the reason is that they teach in English. (AC3)*

On the other hand, two of the academics had negative attitudes towards blended learning. They noted that there were problems now with students, even with face-to-face teaching, and they wondered what would happen if they shifted to blended learning. They did not believe that a completely online environment and teaching culture was suitable for Kuwaiti society, and they expressed concern about students who do not demonstrate a sense of responsibility and honesty, those who plagiarise papers and cheat on exams. They thought that face-to-face teaching had a greater impact on students than did blended learning or online teaching. Moreover, they contended that the existing technology infrastructure does not yet support blended learning, as reflected in the following comment from a male academic staff member who has 20 years of teaching experience:

> *I prefer the current teaching system, the reason being that distance learning is difficult for the instructor because of the many technical problems involved, such as the different formats and the slow Internet connection… whereas in reality you see an effect on the student, and I provide examples… the students are influenced, and I see that effect in the learning outcomes. They are constantly improving, but if everything were online, then this influence wouldn't exist. (AC4)*

5.4.2.2 Digital curriculum content

Transitioning to a digital curriculum content was recommended by 75% of the academic staff, who claimed that such a move would be in line with the job market requirements. This result indicates their preference for using computers and software during the presentation of all educational technology modules. In other words, most of the academic staff preferred to use digital means, such as computers and software, including digital media and graphics, when teaching.

Additionally, 25% of the academic staff were in favour of consistency in the curriculum content, even when multiple instructors teach the same module. One of the female academics, who has 20 years of teaching experience, expressed the opinion that the needs of the job market mandate a transition to a digital curriculum:

> *Today's job market does not require any manual skills. […] Now, new technology graphics and a knowledge of computer software is needed. Personally, I do not teach my students manual methods. […] I use PowerPoint and Photoshop software for educational drawing modules, and they work via computers. (AC11)*

Most of the academic staff agreed that a transition to digital technology is required, and some are already heading in that direction, albeit on an individual basis. Some of the academic staff (17%) stated that the creation of module websites would be a useful change in the delivery of the educational technology programme. One possible approach that was proposed was the development of a website that would host all module information, lecture schedules, topics for the entire term, and examples of past student assignments. Another suggestion involved the creation of a module page via the Moodle virtual learning environment, and the use of its various tools, such as chat and discussion rooms,

a forum, and assessment instruments. One male staff member with 20 years of teaching experience explained why the use of a virtual learning environment would be a positive change in the delivery of the educational technology programme:

> *I use Moodle, which is free and open-source software, because it has a number of tools, such as discussion and chat rooms, forums, video clips and assessment tools (like true/false and multiple-choice tests) that assist in the e-learning process. The Moodle system is able to count student test results immediately, send me the results via email, inform me that a student has received his results, and provide performance feedback. Students can also be made aware of topics prior to my lectures. (AC12)*

The academic staff clearly believed that the use of websites should be implemented in the Educational Technology Department, as websites can offer various useful tools to assist both academic staff and students in the delivery and learning process.

Three academic staff members suggested that the perspective of the labour market be taken into consideration when developing the programme, pedagogy and resources, linking the programme curriculum content with the needs of employers. A male academic staff member, with 30 years of teaching experience, summarises these suggestions:

> *Firstly, scan the job market needs… forming teams to develop the programme content, pedagogy and everything… open new opportunities for students by adding new modules like website design… smartphone applications... (AC10)*

5.4.3 Current technology: A lack of technology

This section focuses on the perceptions of academic staff members regarding the programme's use of technology. This theme comprises two sub-themes: the existing technology and the technology that should be implemented.

All of the academic staff agreed that there is a lack of technology at the department because the university is based on face-to-face lecturing and communication, and they were critical of the circumstances of the programme in this regard. For one thing, they contended that the programme should not continue having instructors take student attendance manually, which they see as a waste of precious lecture time. In addition, academic staff were puzzled because the department does not have a proper website, even though the staff and students are capable of creating a good one. The university does not even offer an email server, so the staff use private accounts on Gmail and Hotmail; still, the college policy does not authorise the use of email communication.

5.4.3.1 Technology that should be implemented

5.4.3.1.1 Learning and communication via social media and websites

The interview data showed that contrary to what the students thought, most academic staff saw social media such as WhatsApp, email, and YouTube as a good means of communicating and learning within the programme.

The data showed that 58% of academic staff believed that social media fosters communication between academic staff and students, and 42% felt that email is an acceptable means of communicating with their students. They confirmed that apps have benefited students significantly, and they mentioned WhatsApp, in particular, as easy to use and not requiring much time. They noted that it makes

communication easy with students, regardless of gender, and that it is easy to share learning materials and set up group discussions. A male academic staff member, with 30 years of teaching experience, explained the benefits of online discussions through social media:

> *As for WhatsApp, the students are with me throughout the term, and I see their participation and their questions at the same time, in addition to email. As for office hours, I have fewer hours now because of the existence of these [other] methods. (AC5)*

Collaborative learning and online discussion were topics that were raised in the interviews with academic staff members, who explained that they use online discussions via WhatsApp to allow students to pose questions and to help one another with learning. One academic staff member commented on this form of pedagogy, whereby he asks students to use social media to engage with one another for group-related work and to help each other. An academic gave an example of his use of social media:

> *It's previously been quick to deliver information to the student, and frankly, I see a huge difference now in how quickly things are achieved and understood. And even if I don't respond to a question right away, there are other students who answer the student who posed the question initially, so projects are completed more quickly, and inquiries are responded to faster. (AC6)*

These particular academics found WhatsApp to be a useful tool for supporting students and forming a community of learners amongst the students, who can then help each other. One male academic staff member with 20 years of teaching experience shared his experience of using WhatsApp to teach photography and mentor students in peer learning and peer assessment of each other's work:

> *WhatsApp is one of the apps that has benefited the students a lot. I teach photography, and at the end of the lecture, I ask the students to take a panoramic photo and send it to the group chat on WhatsApp. They are able to do so, as their smartphones have a panoramic feature. This method is a practical application of what they have studied. Then they share it with their peers through WhatsApp. (AC7)*

A female member of the academic staff, with 20 years of teaching experience, explained that she was not interested in using social media and that she only communicates with students during lectures. She previously had a bad experience using Twitter, when inappropriate images appeared on her Twitter timeline, and this made her uncomfortable about using it with students. She also felt that the students had asked her odd questions.

> *I used to have Twitter, but it wasn't a success, to be honest; the timeline would show irrelevant or inappropriate things. The students ask me if there is a lecture or not, yet I haven't been absent and won't be absent, so why am I asked this question? I deleted the app for this reason. (AC1)*

She also explained her concerns about interacting with students through social media; she thought that there was an absence of social boundaries between students and instructors when they interacted on social media, and she preferred to interact through formal university websites.

> *Our attitudes and culture unfortunately don't separate between friend and instructor. I once kept a blog, but it took up a lot of time and required individual effort from me, and it was an [extra] load, especially seeing as it wasn't official like Blackboard or WebCT; so I deleted that too. (AC1)*

Two of the eight academic staff members suggested using YouTube. One even creates her own educational video clips; after uploading them to YouTube, she sends the links to her students via WhatsApp. She also searches for other useful clips and sends them to her students. Another academic taught three media modules (Educational Video, TV I and TV II) in which his students created video clips, and he recommended that they upload suitable clips to YouTube.

5.4.4 Resources

This theme relates to the programme resources; it has two sub-themes: existing resources and resources that should be offered.

5.4.4.1 Current resources: A lack of resources

All academic staff agreed that the insufficient and antiquated resources present a challenge, and they highlighted key problems such as lecture halls that are not adequately equipped, a shortage of suitable computers in the department, the lack of proper studio equipment for media modules and no Internet service. They stated that this lack of resources rendered the learning environment ineffective.

It is worth noting that the whole college moved from the old campus to a new one during the autumn term of 2013, and this research was carried out in the autumn term of 2014. Still, the academic staff all agreed that the department resources are inadequate and outdated. A male academic staff member with 30 years of teaching experience stated:

> *Educational technology is one of those subjects that needs strong infrastructure… good classrooms and fully equipped facilities… in order to be taught properly. We moved to a new campus one year ago, and unfortunately it has not yet been furnished with the necessary equipment… for example, there are computers but no*

Internet service, which is very important for educational technology… (AC7)

The academics commented on the lack of resources, mentioning the two computer laboratories at each campus, one for women and one for men, with each lab having only 25 computers. They claimed that the computers do not work properly because they have been infected by viruses, and that some computers do not function at all, even though there is supposed to be a laboratory dedicated to every module. Moreover, they pointed out that media modules cannot be taught effectively due to the lack of TV and sound studios, noting that because of this, students might graduate with poor expectations of future work due to their lack of knowledge and skills. A male academic staff member with 20 years of teaching criticised the lack of basic equipment:

Classroom projectors either do not exist or are not working. Such things affect the teaching method… Workshop rooms are not prepared for their intended purposes… there are no TV and sound studios… no video and TV materials.... no recording and mixing devices… the rooms throw echoes… which undoubtedly affects the editing process. How are we to teach these subjects without the basics…? Students might graduate without ever having put their hands on a TV camera…. This is a serious problem… What is required now is to quickly equip this facility so that the modules can be taught properly. (AC4)

All academic staff complained about the lack of Internet connections and their reliance on personal routers belonging to either students or staff members. One staff member described in detail the poor learning environment and stressed that some staff members bring their own equipment:

There are some instructors who bring their own Wi-Fi routers to access the Internet, but because of the obstacles that exist currently,

he [instructors] is not able to gain access [to the Internet]. And there is no equipped studio. (AC1)

5.4.4.2 Resources that should be offered

All academic staff reported the need for sets of the required technology and resources for the department so that they could teach students in groups. They were critical in their remarks, believing that the department would be much more effective if it had the necessary resources and stating that it is hard to continue teaching without certain basic requirements. Six of the eight academic staff members asserted the need to equip the computer rooms with a functioning Internet connection, computers, and display screens for computer module lectures and workshops. They also spoke of the need to equip lecture halls with needed facilities, such as digital projectors and sound systems, as well as screens linked to the hall computer. One academic staff member elaborated on his frustration with teaching and assessing students in the existing computer rooms and repeated the request for basic requirements. The following statement was made by a male academic staff member with 30 years of teaching experience:

I assess them on exercises they complete in front of me. We don't have the equipment—computers and big display screens—or the means to organise practical exams. I think that the department and the college have to help us carry out assessments by providing equipment like computers and other devices to the department! (AC8)

All academic staff urged that the studio rooms be properly equipped for teaching the media modules bundle. They suggested that the rooms be equipped with a layer of insulation in the walls, lighting systems, computers with related media software, and cameras, and they noted that all of these elements should be linked

with, and controlled via, the studio computer. One male academic staff member with 30 years of media teaching summarised these requirements:

> *To have qualified graduates, we have to furnish the studio by putting in insulation and putting in lighting systems, as well as camera systems... Also, link those to the computer and software by having mixer software... This is what is required for the studio room. (AC5)*

5.5 Results for SRQ3

This section presents findings related to SRQ3: *What are the perceptions of MoEIA managers about the educational technology programme graduates in higher education in Kuwait?* .

Two main themes emerged from the data analysis related to SRQ3: MoEIA management perceptions of the current course outcomes, and MoEIA management perceptions of the knowledge and skills that are required.

5.5.1 Perceptions of MoEIA managers regarding programme graduates

5.5.1.1 Dissatisfaction with the provision of educational technology

In summary, all eight managers expressed their dissatisfaction with educational technology graduates, believing that they possess outdated skills and limited knowledge. They also observed that the graduates behave as if they are still part of a student culture rather than a work one, in that they lack professionalism and experience of organisational culture; they gave examples of students not being on time and seeming uninterested in job tasks. This section will explore the reasons for this dissatisfaction in the following key areas.

The next statement summarises the managers' dissatisfaction with the outcomes of the Educational Technology Department. This male manager, with 20 years of

experience at the ministry, admitted that he understood why the graduates were unsatisfactory, because he himself had graduated from the educational technology department.

> *It's not a secret that the outcomes of educational technology are weird because the technology used to teach the students is outdated for data visualisation, studio work, and devices. Honestly, once I finished my studies [at the Educational Technology Department], I made an extra effort to develop myself based on what's available in the current technology market… But generally, the outcomes are weak. (M1)*

5.5.1.2 Mismatch with the job market

Six of the eight managers pointed to a mismatch between the preparation provided by the programme and the expectations of the MoEIA. Two male managers, each having 20 years of experience at the ministry, echoed each other's frank comments explaining why graduates do not get a job:

> *I think that the difficulties are represented in the difference between what they have studied in college and what happens in the real world of the labour market. All the things they studied are completely different from how things really are. (M2)*

> *They come with old knowledge and skills of analogue devices and puppetry, but we don't want these things; we don't want transparency sheets or manual photo developing...! (M2)*

> *When the new employees arrive, they have been trained to use traditional cameras and to develop film, but we use digital cameras, so there's a big gap. We put up with a lot from them in training them to use digital cameras because it requires skill: lighting, shutter speed, and other techniques. (M7)*

5.5.2 Perceptions of MoEIA managers as to the required skills

Analysis of the interview data reveals the expectations of MoEIA management in this context; they expect specific, up-to-date knowledge and modern skills because real-world job activities are moving in this direction, which is especially apparent in Kuwait's vision for 2035.

5.5.2.1 MoEIA expectations

Seven of the managers referred to the additional need for primarily soft skills such as teamwork, adapting to an organisational culture, critical thinking, problem-solving, ICT communication, general English language, presentation, and report-writing, as one manager explained:

> *What is required then is soft skills… such as basic English, report-writing, and presenting… hard skills, such as being knowledgeable about current subject information, technology, and effective communication, both face-to-face and electronically, and priority management… Technology skills are also required, including operating computers, typing, and email communication, as well as the ability to use social media and smartphones to communicate with team members... (M2)*

The MoEIA has several media departments, and four of the managers referred to the need for digital media skills in video, sound, and graphic design. One manager reported:

> *I need a sound editor and video editor…I need a studio technician for sound and TV editors, a digital photographer, and we need specialists in marketing via social media, as well as specialists to design and manage our projects. (M7)*

The MoEIA carries out many projects involving the general public, and they believe that social media and websites are the most important platforms for marketing to and communicating with the Kuwaiti society. Therefore, three managers referred to the need for management and social media marketing skills, and three managers referred to the need for website design skills, as elaborated in the following statement:

> *We need employees who are capable of marketing for the campaigns we run, especially the principles of marketing. We had an incident in this area. We had a youth campaign, and the target demographic was 12- to 14-year-olds. We put ads in the newspaper, but through experience we discovered this was wrong because this demographic does not read newspapers. So we went to malls and used social media, i.e. where they are more likely to be. We want specialist marketers of social media. We want specialists to design a website and to manage and design our website connected with our projects. We need people who are able to work as a member of a team at work. (M7)*

5.6 Key findings

This chapter presented findings related to the perceptions of academic staff and students regarding the pedagogy, technologies and resources that are and should be implemented for an effective educational technology programme, as well as findings related to the perceptions of MoEIA managers towards educational technology graduates. The following points summarise the key findings:

- In the view of both academic staff and students, the educational technology programme pedagogy has many shortcomings, and there was broad agreement on the weaknesses in various pedagogical issues. The data showed all groups criticising the current curriculum as outdated and unable

to provide graduates with the technology skills required to enter the job market. Students viewed their studies as theoretical rather than practical. Moreover, they pointed to a lack of congruity in the content, and they suffered negative effects due to disagreement amongst academic staff concerning what content should be taught in prerequisite modules. The students believed that the curriculum content varied depending on who teaches it, so that modules are not consistent. If the module tutor is more up-to-date on digital technology, for instance, the students will study digital technology; otherwise, they will receive older information.

- Academic staff and students both asserted that digital content, provided through computers and software such as graphics and media software, should be part of the programme. Such a move would be in line with the job market requirements, and academic staff and students already have access to smartphones and computers.

- Most academic staff thought that blended learning should be implemented in the educational technology programme. They confirmed the advantages of blended learning: its flexibility for students and their families; the ability of students to quickly catch up on lectures missed by downloading them from the module website, thus saving time for both students and academic staff; and the opportunities for both face-to-face and online learning. Academic staff recommended that a whole new system should be built, rather than simply adding the concept of blended learning to the existing system, because blended learning must be part of a comprehensive system if it is to deliver the promised benefits for design, implementation, maintenance, facilities, and academic assistance.

- Academic staff and students complained of an inadequate use of technology within the programme. They were frustrated because although they are living in the 21st century, and technology is ubiquitous, there is a lack of technology (both hardware and software), so they still need to travel to the university and communicate with each other face-to-face. They found it ironic that a programme focusing on educational technology does not itself make use of technology for communication and learning. The students noted that although they have access to smartphones and computers, they cannot use them, so they feel they are moving backwards when it comes to their studies. Moreover, they remarked that while the name of the programme is attractive, in reality, it does not accurately reflect its circumstances, since the technology – in the form of websites, social media and email – is missing.

- Hence, academic staff and students argued that learning and communication related to the programme should take place over social media (i.e. WhatsApp, email and YouTube), which they viewed as an effective means for learning and for fostering communicating between academic staff and students. They felt that email is an acceptable means of communicating amongst themselves, and they confirmed that WhatsApp benefited them significantly because it is fast and easy to use. They noted that it makes communication with students easy, regardless of gender, and that it is easy to share learning materials amongst students and to set up group discussions. Several disadvantages of social media were also reported, including students chatting about unrelated topics, making jokes and pulling pranks; misinterpretation of the intent of messages; late night posts and privacy issues because WhatsApp, for example, displays the

private mobile numbers of all the members of a group. Some students reported problems in communicating with instructors who encourage them send emails if they need anything but then do not respond or even acknowledge receiving their emails.

- All academic staff and students agreed that missing and obsolete resources present a challenge, rendering the learning environment ineffective. They highlighted the problems of lecture halls that are not properly equipped, the shortage of suitable computers in the department, the lack of proper studio equipment for the media modules, and no Internet service.

- Academic staff and students believed that the department could be much more effective if it had the necessary resources, and the academics stated that it is hard to continue teaching without certain basic requirements. They asserted the need to equip the computer rooms with Internet service, computers, and display screens, in order to monitor and follow up with their students. Likewise, they asserted the need to equip lecture halls with needed facilities, including digital projectors and sound systems, as well as screens that are linked to the hall computer. Moreover, they called for studios be properly equipped in order to teach students the media modules bundle. They suggested that studios be equipped with a layer of insulation in the walls, lighting systems, computers with related media software, and cameras. They noted that all of these elements should be linked with and controlled via the studio computer.

- All of the MoEIA managers expressed their dissatisfaction with educational technology graduates, describing them as possessing outdated skills and

limited knowledge. They also commented that graduates lack professionalism and experience with organisational culture, behaving as if they are in a student culture rather than a work one. Examples included students not being on time and being uninterested in job tasks.

- The managers expected a certain set of skills from educational technology graduates; these included 21st-century skills, digital media skills, and social media skills. The MoEIA expects this specific, up-to-date knowledge and these skills because real-world job activities are moving in this direction, which is especially apparent in Kuwait's vision for 2035.

5.7 Summary

The results documented throughout this chapter indicate that all of the students and academic staff who participated in the study agreed that the implementation of pedagogy, technologies and resources within the educational technology programme is in dire need of improvement. Students and academic staff described the content as outdated and poorly matched to the needs of the job market, and they pointed to a lack of technology within the programme. They argued that essential resources are missing, in that lecture halls are not equipped, there is a shortage of suitable computers, proper studio equipment for the media modules is not available, and there is no Internet service.

They proposed a variety of enhancements to the pedagogy, technologies, and resources in order to make the programme effective. They suggested that digital content should be provided through computers and software such as graphics and media software, and that the programme should implement learning and communication through social media (i.e. WhatsApp, email, and YouTube). They asserted the need to equip the computer rooms with an effective Internet service,

modern computers, and display screens in order to monitor and follow up with their students, and also to equip the studios appropriately.

Managers at the MoEIA perceived educational technology outcomes as weak and limited in terms of their knowledge and skills. They reported that educational technology students were not exposed to organisational cultures, faced problems when working in teams, and had been trained on technology that was obsolete. The managers specified the knowledge and skills that students need to succeed in the workplace, the most important of which are teamwork skills, the ability to adapt to modern organisational cultures, and critical thinking; they also cited digital media, social media, and website design skills.

The next chapter will discuss these results in light of the related literature and will investigate to what extent these findings contribute new knowledge to the literature.

Chapter 6: Discussion

6.1 Introduction

This chapter discusses the key themes (namely, pedagogy, technology and resources) that emerged from the data, and it compares the findings of this research with those of other studies identified in the literature review. The chapter is organised around the key findings, which span the three research questions:

RQ1: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by students?

RQ2: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by academic staff?

RQ3: What are the perceptions of MoEIA managers about the educational technology programme graduates in higher education in Kuwait?

6.2 Discussion of Research Question 1

RQ1: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by students?

6.2.1 Current pedagogy

6.2.1.1 Mismatch between content and job market requirements

Employability emerged as a strong theme in the views of the students sampled in this study. The findings indicate that a significant number of students were critical

of the current content of the educational technology programme because it does not provide them with the technology skills they need to enter the job market. A large majority of the students want to gain advanced technological knowledge, and they suggest that the programme should be developed to incorporate the technology skills in demand in the job market. This finding is consistent with a study by Rabayah and Sartawi (2008), who maintained that the content of educational technology education should link theory to practice. Similarly, Rogow (1993) argued that curricula must balance theoretical content with workforce demands. The students who participated in this study signalled their need for support and guidance from the academic staff in relation to using technology, so they could acquire skills and be prepared for the job market. The challenge, then, is to improve the programme content at the university level in a way that corresponds to workplace requirements (Gibbs, 2009).

The educational technology programme does not appear to prepare graduates for the job market; in fact, most of the students reported that they do not have ICT skills in areas like photography, graphics, design, media and 3D filmmaking. Many students indicated that the current programme is still training them to design and produce materials manually, using materials and tools such as cork and scissors. Just over half of all sampled students asserted that the use of digital technology, including social media and interactive websites, would be a useful upgrade to the delivery of the educational technology programme.

This critique (that the programme does not appear to prepare graduates for the labour market) is consistent with a report from the Arab League Educational, Cultural and Scientific Organization (2017), which confirmed that for the most part, higher education in the Arab world does not match the job market expectations in

Arab countries. This finding is also in line with Kandiko and Mawer's (2013) study of students' expectations and perceptions of higher education, which explains that, "Students' dominant view of the purpose of higher education was as a pathway to 'advance your career', but this subsumed ideas of higher education as vocational training, a personally transformative experience and getting a job" (p. 36).

Many of the students referred to the curriculum content of the educational technology programme as outdated; they described it as 'inconsistent', 'not related to current reality', 'obsolete' and 'superficial'. In fact, the curriculum content has not been updated since the inception of the programme in 1981, even though the requirements of the Kuwaiti job market have changed dramatically since then (Al-Daihani, 2011). Elsewhere, other studies have also concluded that the programme content of HEIs did not yield students who would satisfy the demands of the labour market (Herath & Ranasinghe, 2011; Merritt, 2014; Samaradiwakara & Gunawardena, 2017).

Studies in the Kuwaiti context confirm that Kuwaiti students generally have negative perceptions towards their curriculum content because the content does not help them to fulfil the demands of the job market (Al-Daihani, 2011; Albadir, 2014; Buarki, 2010). Al-Daihani (2011) and Ghaith (2013) agreed that the Kuwaiti higher education curriculum content is outdated and is not aligned with the job market requirements. In this context, it is relevant to note that the Kuwait 2035 vision calls upon educators to review their educational curriculum content and revamp it to align with 21st-century requirements (Al-Diwan Al-Amiri, 2018).

Aside from the students, a substantial number of academic staffs also view the curriculum content as obsolete, as do managers at the MoEIA, who regard

graduates of the educational technology programme as weak employees with limited knowledge, skills and abilities (Sections 5.4.1 and 5.5.1).

6.2.1.2 Theoretical study

The second key theme that surfaced from the data relates to the over-reliance on theoretical learning within the educational technology programme, combined with a lack of experiential learning. Students reported having negative attitudes towards the classroom teaching methods used by the academic staff because the content was taught theoretically, through lectures only. They reported that they studied technology-oriented topics without actually having access to the resources concerned; consequently, they are taught based on theory, rather than in a practical, technology-based way. As an example, the student participants claimed that they were taught and learned about interactive whiteboards from a theoretical perspective only, without ever having the opportunity to see and handle such boards – perhaps because the programme does not have the required resources and technology (Section 5.4.4). The students do not seem to accept the theory-based method; instead, they express strong criticism in their remarks about the role of academic staff in using technology, as well as the potential influential role of pedagogy (McGarr & Gavaldon, 2018). The results of this study indicate that successful use of technology in the classroom can lead to improvements in the students' learning. Using technology alongside a suitable pedagogy helps students to participate actively in their own learning process (Griffin & Cashin, 1989).

6.2.1.3 Inconsistency in content among different staff

A noticeable number of students reported negative experiences due to the lack of consistency in the content of modules taught by different academic staff, reflecting

disagreements amongst academic staff on the content to be taught in required modules. This hinders the students' progress, as some content is missed. According to the students who raised this issue, some academic staff state that they will not repeat anything that may have been missed in a previous module, insisting that the students are responsible for acquiring the skills and information that were not covered. Related to this issue, Koh at al. (2015) argued that content might act as a constraint on academic staff in relation to implementing the relevant technology; if they cannot draw upon specific content knowledge (CK) and specific technological knowledge (TK) to identify the links between these two dimensions that might be most promising within the curriculum context, then the use of technology by the academic staff will be constrained and/or ineffective. This may explain the challenges involved in integrating technology in the lessons, for such integration requires careful consideration of the potential benefits of technology, pedagogy and content (Drent & Meelissen, 2008; Lim & Chai, 2008; Pouratashi & Rezvanfar, 2010).

Since the curriculum content depends on who is teaching the module, the modules are not consistent. If the module tutor is more up-to-date on digital technology, for instance, the students study digital technology; if not, the students are presented with older information. This may be because the Kuwaiti higher education sector has not adopted a clear educational approach in its teaching (Troudi, Coombe, & Al-hamliy, 2009). This situation is in contrast with constructivist pedagogy, which asserts that effective learning should state clear learning objectives for the students and allow them to engage in learning activities and content, and that students should be assessed based on learning objectives and then graded based on their work (Biggs, 2014).

6.2.1.4 What is the best way to deliver the curriculum?

6.2.1.4.1 Studying a wholly digital curriculum

The majority of the student interviewees advocated switching to a wholly digital curriculum to improve the way the educational technology programme is delivered. These students suggested that having digital content incorporated within the programme would help to prepare them for the job market. For instance, they expressed a desire to study 3D filmmaking, but they would prefer to have HD (High Definition) televisions rather than the standard definition televisions that are currently available under the programme. This finding is consistent with the suggestion of Dinning, Magill, Money, Walsh and Nixon (2015) that a transition period for students entering higher education is crucial and that a blended learning approach, employing a mix of face-to-face and online activities, supports their learning and enculturation. The students in this study reported that developing digital technology skills and communication skills were crucial for meeting the needs of potential employers. Blended learning is more effective in developing students' critical thinking (Al-Fadhli & Khalfan, 2009). Alayyar et al. (2012) and Al-Fadhli (2008) indicated that the nature of blended learning encourages students to be independent learners; it also contributes to the development of digital technology skills (Alayyar et al., 2012; Alebaikan, 2010).

6.2.2 Technology

6.2.2.1 Current teaching environment: A lack of technology

The students expressed frustration about various aspects of fundamental and basic technology within the educational technology programme, questioning how it could be termed an 'educational technology programme' when in reality, there was

limited use of technology for either communications or learning. They asserted that nowadays, this communication and learning can take place via a variety of means, including WhatsApp, email, websites and so on. Since they already had access to smartphones and computers but could not use them for their studies, they felt that in terms of technology, their studies were taking them backwards. This might represent an internal barrier in their perception of technology, causing them to question whether technology will help them learn. This may help explain why technology has not been integrated successfully in this course despite the fact that smartphones were widely available and accessible by both staff members and students. Joo, Lim, and Kim (2016) reported that TPACK is a significant factor influencing the decisions of academic staff concerning the use of technology in the classroom, and the present study confirms this. Moreover, all of the educators in the present study dissociated themselves from computers and reduced the amount of time they spent engaging in technology-related activities. In both studies, the students had limited use of software intended for drills and practice, and academic staff and educators were found to have minimal telecommunications interaction with students, even though they work in the field of technology.

The students reported limited communication by academic staff over social media, and they complained that this absence of positive communication made it very difficult to stay up-to-date with the course requirements and with the academic staff. The study revealed that the students held negative opinions about academic staff who did not use social media forms of communication. A study by Faizi (2018) also identified a lack of staff communication through social media and indicated that the unwillingness of staff members to use such forms of communication arose from their desire to avoid confrontations with students.

Nevertheless, it can be argued that to bring about effective digital learning, there is a need to employ related technologies (NACE, 2014; OECD, 2017).

The students explained that they had no means of contacting the academic staff other than face-to-face interaction during lecture times. Most of the students reported having no online access at all to the academic staff, and they considered this insufficient. This explains why the majority of students confirmed that they use social media with the academic staff on an unofficial basis only (Section 5.3.3.2.2).

This lack of communication might prevent students from having access to scaffolding strategies, and this in turn affects their learning and communication skills.

6.2.2.2 Technology that should be implemented

6.2.2.2.1 Studying via websites

A considerable number of students clearly favoured the idea of using websites that contain information about each module, such as lecture dates and associated topics, past assignments, and voice recordings of previous lectures, in addition to websites that offer forums for online discussion.

Of all the students interviewed, including both males and females, 82% were in favour of participating in online discussions and other methods of learning through ICT. Such an approach is particularly advantageous in societies like Kuwait which implement gender segregation in education (Al-Fadhli, 2008; Alebaikan, 2010). Other studies have provided strong evidence that discussing and learning through websites offers much greater flexibility for students and academic staff than does face-to-face communication and teaching (Al-Fadhli & Khalfan, 2009; Osguthorpe & Graham, 2003). Student preferences for interaction-based websites can be

explained by reference to social constructivist traditions, which suggest that students learn better when they communicate and engage in dialogue about the topic of study (Driscoll, 2000; Schunk, 2012).

The study findings indicate that most of the students held positive views of, and had had positive experiences with, learning using online materials and websites. They cited various benefits of study websites, including:

- acting as a backup for missed lectures;
- providing voice recordings;
- clarifying information about the module, such as a syllabus listing the topics to be studied;
- specifying assignments and their deadlines; and
- easy access from smartphones and PCs.

According to the Horizon Report (2017), using websites as part of blended learning is a distinct trend in effective educational technology education. Two studies on blended learning using websites have been carried out in a context similar to Kuwait's (Algharib et al., 2012; Ghaith, 2013). Both confirmed that blended learning using websites outperforms the use of face-to-face lecturing and communication alone, in terms of students' achievement levels and understanding of topics; furthermore, both studies asserted that blended learning via websites has the potential to be applied in the Kuwaiti context.

6.2.2.2.2 Learning and communication through social media

A large number of the student participants were optimistic about learning and communication through social media – as may be expected, since they were all enrolled in a course that was related to e-technology. The students expressed

their familiarity with social media tools, applications and formats, including WhatsApp, email, Twitter, blogging, Google Docs, and video content and sharing. Using these tools, students could learn in groups, sharing and exchanging module materials. It is important to point out that there is extensive literature on the impact of collaboration on technology tasks, where there is a sharing of ideas, critiques and feedback (Barton & Haydn, 2006). In the present study in Kuwait, a noticeable number of students expressed positive opinions towards this kind of collaboration via WhatsApp, Twitter, blogs, Google Docs, and video content and sharing. They indicated that collaborative work and a collaborative pedagogy make their learning easier and allow them to communicate with both academic staff and other students. This finding is consistent with social constructivist ideas suggesting that students learn more when they engage in communications related to the topics they are studying (Driscoll, 2000; Schunk, 2012).

Most of the students reported that they communicated unofficially with their classmates and academic staff using ICT like WhatsApp or emails, and they see social media as an effective way to connect with their classmates and academic staff. This confirms the finding of Hung and Yuen (2010) that students experience feelings of connectedness and favourability when social networks are used as educational tools, and it is in line with existing research concerning changes in educational technology and the use of social media in Kuwaiti higher education (Alfelaij, 2015).

Most of the students interviewed indicated that it would be appropriate for the educational technology programme to introduce communications via digital technology such as WhatsApp and email, especially since the students and academic staff have access to computers and smartphones, with WhatsApp

already installed. They confirmed that WhatsApp, in particular, is instantaneous and easy to use, and thus helps to make their learning easier. Similar findings have been identified by other authors in the same context (Alfelaij (2015) and elsewhere (Yon, 2016; Malecela, 2016).

The study revealed that most of the students (82%) held positive views of the WhatsApp application. They found it to be a useful tool for student–student and student–academic communication, as well as for peer-to-peer feedback, exchanging module materials (e.g., YouTube links and PDFs), and making module enquiries regarding project deadlines and chapter exams. Its accessibility on smartphones is one of the key reasons why the majority of the students prefer to communicate over WhatsApp. This reference to accessibility was also found in a study by Echeverría et al. (2011), which reported findings similar to those of the present study: that mobile devices are used at universities and higher educational institutions to improve online social interactions through discussions and to share knowledge between students by synchronous or asynchronous mobile communication modes, such as instant messaging, mobile social networks and web-based learning applications. The students in the present study stated that using WhatsApp improves the interaction between students and with academic staff; this is consistent with the finding of Abaido and El-Messiry (2016), who examined the impact of WhatsApp usage on improving the interactions among students and between students and academic staff; their results indicated that using WhatsApp improved the students' learning and engagement. Alfelaij (2015) also argued that WhatsApp had a high potential to be an effective means of communication as well as a learning tool.

On the other hand, the present study pointed out some disadvantages of using WhatsApp in formal education, and a small number of students held negative views of WhatsApp, for various reasons. The disadvantages cited by students included students employing WhatsApp for excessive chatting, joking and playing pranks; these and other disadvantages have also been found in other studies (Malecela, 2016; Odewumi, Bamigboye, Olawuyi, & Bamigboye, 2017; Yon, 2016). To ensure that WhatsApp is used wisely, academic staff should inform students of a simple code of practice, as suggested by Bansal and Joshi (2014), who argue for such codes of practice to be put in place in order to foster effective communication using WhatsApp. Academic staff should also set specific times for sending messages – from 8:00 am to 8:00 pm, for example – and should require that all messages be related to the module in question. In the present study, one of the members of the academic staff had already given her students similar guidelines.

The study found that some students had negative attitudes towards WhatsApp because they lacked confidence in information sent by their. They reported that while the students answered each other's questions, there was no assessment of how reliable those answers were, and this created confusion. Some students also expressed concerns about possible misinterpretation of the intent of messages, messages sent at late hours, issues of privacy and issues relating to the visible confirmation that messages have been received and seen by the recipients; similar concerns were mentioned in other studies (Bansal & Joshi, 2014; Malecela, 2016; Yon, 2016).

Despite the disadvantages, there is the potential to create a community of learning. Researchers have found that trust and collaboration among a community

of learners inspires a positive learning environment that enables an interchange of ideas, thoughts, information and knowledge (Rahman, Hussein, & Aluwi, 2015; Sher, 2009).

A minority of the students who participated in the study suggested that blogging by the instructors could help guide them in relation to the materials they were studying; the instructors could also answer practical questions about exams and timetables on the blog. This idea is supported by Kim (2008), who explored the features of blogs and concluded that their attributes help overcome some of the technology issues encountered with closed systems such as Blackboard discussion forums and emails, where several steps are required before one can initiate or reply to a message. In the current study, students explained that they found blogging to be a very useful tool for reflecting on the learning materials they used in class as well as supplementary online materials recommended by the academic staff or other students. As shown in other studies, blogging is a learning tool that can bring about greater engagement by students with the course materials (Ali, Byard, Julich, & Kommunuri, 2013; Davi, Frydenberg, & Gulati, 2007; Niess, 2011). As reported by the students in this study, blogging makes them active in the learning process (Du & Wagner, 2007) and helps them to plan activities and tasks together, share ideas and carry out peer assessments (Dabbagh & Kitsantas, 2012).

A significant number of students believed that YouTube could have a positive impact on their learning; they stated that YouTube has the potential to improve their engagement with the subject, both inside and outside the classroom. The students reported that YouTube facilitates the sharing of content with peers, enables discussion, and makes it possible to absorb new content in a very short

time. This finding is consistent with a study by Greenberg and Zanetis (2012) which found that online videos were an educational 'enabler and complementary tool' in the teaching and learning process (p. 3), and that they stimulated greater interaction with the content and also among students. Greenberg and Zanetis (2012) also suggested, as did the present study, that YouTube enhances knowledge transfer. For YouTube to be used effectively as an educational tool, students should be provided with directions on its use, and a pedagogy should be in place to guide them in engaging with the learning content presented on the platform (Burke & Snyder, 2008; Trier, 2007). The present study indicates that the pedagogy used (unofficially, for now) by academic staff to introduce YouTube has an impact on students and improves the effectiveness of their use of YouTube. On this point, McLoughlin and Lee (2008) set out a framework explaining the three 'P's of Pedagogy 2.0 that are needed to ensure that online videos give students more choice, self-direction and engagement in their learning:

- Participation: encouraging students to communicate and enter into dialogue by using social networks,
- Personalisation: allowing students to manage and choose their learning styles, and
- Productivity: students creating the content and contributing to knowledge production.

Most of the sampled students saw enormous potential in social media as a tool for learning and communications. This is consistent with a study by Kilian, Hennigs, and Langner (2012), which found that students were motivated to use social media for learning and communication because this aligned with their desire to be interactive. In this sense, the present study highlights the significance of social

interaction for collaboration among students; such interaction drives students to engage with, and learn through, social media. Neier and Zayer (2015) also observed that social media in education motivated students to interact with each other and to learn, both through the social interaction and through social media itself.

The findings of the present study show that although a large number of students in the educational technology programme use social media tools for communication and learning purposes, these tools are used inconsistently by academic staff. Some use WhatsApp and email, while others do not; some use websites, while others do not. In addition, there is no clear pedagogical approach to using these tools. Viewed from a social constructivist perspective, there are also no apparent scaffolding strategies because although most of the students and academic staff use WhatsApp and email for communication purposes, they do not use them in accordance with a clear and framed pedagogy. In other words, the students' learning might be affected because they use WhatsApp and email not for clear pedagogical purposes but only for communications such as arranging meeting times or sending reminders about assignments. In a scaffolding pedagogy, academic staff assist students by asking them what they already know and what skills they already possess, and then they build upon this with new knowledge and skills (Odewumi et al., 2017; Wood et al., 1976). In addition, students construct their own knowledge via dialogues and conversations between academic staff and other students (Driscoll, 2000; Schunk, 2012). Hung and Yuen (2010) argued that it is necessary to develop a structured mechanism for interaction and information-sharing on social media, in order to avoid negative experiences from the use of social networking for learning.

6.2.3 Resources

6.2.3.1 Current resources

Most of the students indicated that the Educational Technology Department lacked essential resources, such as a media studio, computers and Internet access. Since the teaching circumstances are theory-based rather than hands-on, students learn about technology such as interactive whiteboards without actually handling or fixing the smart boards. Research by Mirzajani, Mahmud, Ayub, and Luan (2015) and Meerza and Beauchamp (2017) similarly reported a lack of resources in Kuwaiti higher education institutions. This lack of resources could affect the teaching and learning of educational technology (Mehlinger & Powers, 2002; Pelgrum, 2001; Zare-ee, 2011). Where the department lacks essential resources – such as the aforementioned media studio, computers, and Internet access – academic staff are unable to teach students to use the sort of technology envisioned in Kuwait 2035 and the MoEIA vision (Al-Diwan Al-Amiri, 2018; MoEIA, 2017). When theory, rather than technology, is emphasised, as with the example of smart boards, the students will not become competent in using the technology properly.

This situation prevents students from actually engaging with the appropriate materials and devices, and this in turn has a negative effect on their learning. Porter and Graham (2016) argued that the factors with the most significant impact on the faculty's integration of technology are: an adequate infrastructure, technological support, pedagogical support and an institutional vision for adopting technology. Beetham (2012) contended that to engage in effective learning, students need to have many elements in place, including the relevant resources

and facilities. As mentioned previously, students in the present study reported that the university had antiquated equipment and devices.

The lack of essential resources in the Educational Technology Department might be due in part to issues with Kuwaiti higher education in general, such as the prevailing opinions of decision-makers regarding how to allocate money budgeted for educational technology (Spector et al., 2014). A study in the Kuwaiti context, conducted by Meerza and Beauchamp (2017), found that a critical factor affecting the attitudes of undergraduates towards their higher education is the level of support they receive from their tutors, along with the availability and accessibility of resources at university.

Most of the sampled students reported that not only was there a shortage of computers, with only 25 computers for each of two campuses (male and female), but also that those computers did not work properly and often froze because they were infected with viruses. These students also claimed that although the department offers a set of modules on media, such as TV and sound, there is no equipped media studio; moreover, the department does not even have Internet access. From these findings, it can be inferred that the resources available are incapable of adequately supporting the teaching and learning in the Educational Technology Department; thus, they do not satisfy the requirements associated with recent educational policy reforms in Kuwait. This result echoes the findings of previous studies in Kuwait (Al-Doub, Goodwin, & Al-Hunaiyyan, 2008; Meerza & Beauchamp, 2017). Mirzajani et al. (2015) reviewed the obstacles hindering the use of technology in higher education and concluded that the key impediments were resource-related (including a lack of resources, a lack of knowledge and skills and a lack of leadership), in addition to institutional and attitudinal obstacles.

In the view of all the student participants, the situation in the Educational Technology Department presents barriers to their obtaining digital technology knowledge and skills, and it prevents them from mastering contemporary requirements in accordance with either the Vision 2035 statements or actual job market needs. This is one reason why most of the MoEIA managers in the study viewed graduates of the educational technology programme as weak and inadequate.

6.2.3.2 Resources that should be implemented

Many of the students in the study mentioned that the programme should have a set of resources that will allow them to learn effectively and to obtain the required technology skills. They indicated that the computer rooms should be equipped with essentials like effective computers and Internet access, the studios should be fully equipped, and the classrooms should have computers and digital screens or interactive whiteboards, since academic staff display PowerPoint slides in teaching. Indeed, the necessary technological resources should be installed to ensure that effective learning is taking place (Beetham, 2012; Cooner, 2010; Kirkwood & Price, 2013). Still, pedagogy and the way these resources are used remains crucial (Selwyn, 2011; Beetham, 2012; Kirkwood & Price, 2013).

6.3 Discussion of Research Question 2

RQ2: What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by academic staff?

6.3.1 Current pedagogy: curriculum content

Interviews with academic staff members indicated that most of them also held negative views of the curriculum content in relation to the demands of the job market. They reported that the modules offered did not match the requirements and demands of the labour market, which include advanced graphics and computer programs. Both the academic staff and the students corroborated their negative perceptions by citing the current content of the modules, such as the reliance on manual activities, which require long lecture times, rather than digital technology. For instance, the educational objective of the puppet-making module is to create three-dimensional shapes to illustrate stories and concepts for school students. Achieving this takes four hours and requires manual skills such as cutting, using glue, filling the puppets with cotton or wool, and colouring them. This still takes place despite the existence of software that can deliver the same educational objective in minutes, without the manual efforts. This sort of manual content is being taught at a time of rapid proliferation of software applications and electronic devices. Having limited resources results in a lack of technology integration, which in turn means that both students and educators lack sufficient experience with technology (Mumtaz, 2000), and students are not equipped with knowledge and skills that are in alignment with the various job market requirements.

This finding, that current content does not match the requirements and the demands of the labour market, is in line with the findings of Aggestam and Hallberg (2005) and Herath and Ranasinghe (2011) that graduates face challenges in the rapidly changing technology environment because of the discrepancy between their technology competencies and the demands of prospective employers. The skills gaps reported by this study are consistent with

the findings of Jayaram and Engmann (2014), who attributed this gap to a lack of interaction between educators in higher education and the job market, with educators generally being naïve in regard to the skills required in the labour market. The same conclusion has been reached in the Kuwaiti context by Al-Daihani (2011) and Albadir (2014), who agreed that there was a gap between Kuwaiti higher education and the Kuwaiti job market.

Kuwait has published an official set of vision statements that call for improving the consistency of the Kuwaiti educational system in the technological era. These statements assert that enhancing teaching and learning is essential in order to match contemporary employment requirements, and digital technology is, of course, a fundamental component of these requirements. In their vision, the MoHE established a specific set of goals for higher education, and these goals included using digital technology and bridging the gap between the international and local contexts (MoHE, 2008, p. 29). According to this vision, students are required to possess digital knowledge and skills.

Most of the academic staff who participated in this research indicated that the educational technology content was outdated and not fit for purpose; two-thirds of them believed that the current content was not applicable to today's job market. According to these staff members, the current curriculum provides students with very superficial skills, such as how to switch computers on and off, and how to create and save files in Microsoft Word and PowerPoint software. Samaradiwakara and Gunawardena (2017) examined the perspectives of university and industry employers in Sri Lanka regarding technology education in universities and its relevance to the job market. Both the present study and Samaradiwakara and Gunawardena's (2017) study reported that basic technology

is an essential component of today's job market, but the universities concerned did not help their graduates meet the demands of this market. Similar results were reported by Merritt (2014), who examined the impact of technology on six skilled jobs in Mexico City; he argued that jobs are no longer defined by traditional skills, but rather by the ability to multitask, especially with technology. When Jayaram and Engmann (2014) explored whether education systems were adequately preparing students for the workplace, they identified three key types of skills that employers were looking for: cognitive, non-cognitive and technical. They emphasised that non-cognitive skills, such as communication and innovative use of technology, were very important for obtaining a job.

6.3.2 Pedagogy that should be implemented

6.3.2.1 Blended learning

Most (83%) of the academic staff favoured blended learning as a change that could be made in terms of the delivery of the educational technology programme. According to them, applying blended learning – by using digital technology such as websites, email, and WhatsApp – would improve the communication between students and academic staff, and it would also have an impact on student engagement and learning. The academic staff held very positive views of the usefulness of applying blended learning, and this is consistent with Alajmi's (2010) study, which surveyed 51 academic staff in the College of Basic Education and found that academics had a positive attitude towards digital technology.

According to the present study, academic staff had positive perceptions of blended learning, and some applied it on an individual basis. The fact that these efforts were taking place individually, with no institutional support, explains why blended learning has not yet been implemented successfully in higher education

in Kuwait, and I would argue that it is not feasible without institutional support. The academics in this study recommended policy changes that were needed to ensure consistency and stability in applying blended learning. They also referred to the need to overcome certain challenges, such as the time wasted in taking attendance for each lecture, and the lack of resources, facilities and training in blended learning for academic staff and students. This finding coincides with that of Porter, Graham, Spring, and Welch (2014), who examined 11 cases where universities adopted blended learning through a process of transition from the stage of awareness/exploration to the stage of adoption/early implementation. Porter et al. (2014) recommended a system that facilitates blended learning and provides ongoing technical and pedagogical training to staff and students. The current study argues that successful implementation of blended learning requires support from faculty, administrators and students (Donnelly, 2010; O'Dowd, 2013; Taylor & Newton, 2013) in relation to developing a shared vision of blended learning implementation in a university as a whole, and in specific courses or programmes (Garrison & Kanuka, 2004; Moskal, Dziuban, & Hartman, 2013; Niemiec & Otte, 2009).

The present study demonstrates that there is no community of practice in regard to technological integration in the case of the educational technology programme. Academic staff strongly believed that changing from face-to-face to blended learning was possible but might require the construction of a whole new system. Such a change needs a supportive community that shares the same educational goals, structures and processes (Archer, Garrison, & Anderson, 1999). The findings of the present study are supported by Garrison and Kanuka (2004), who found that a successful implementation required a more formal approach to developing policies and operations to support the implementation of blended

learning at the university. The present study's findings about the importance of institutional policy in this regard was supported by Graham, Woodfield, and Harrison (2013), who indicated that barriers related to institutional policies, structures and lack of support could prevent large-scale adoption of blended learning by the faculty. Kirkwood (2014) argued that the relevant policies and strategies should be clear and should explicitly outline the routine processes by which technologies can be of value to learners, academic staff and the institution. Within the Kuwaiti context, a limited number of studies have confirmed that blended learning has the potential to be applied in higher education (Al-Fadhli, 2008; Al-Fadhli & Khalfan, 2009; Ghaith, 2013).

6.3.2.2 Digital curriculum content

A large number of academic staffs expressed their desire to apply digital curriculum content in the educational technology programme by using computers and software to present all of the educational technology modules. In other words, most of them preferred to use computers and software, including digital media and graphics, when teaching. Indeed, these academic staff indicated that the Kuwaiti job market requires this sort of digital content, and for this reason, some of them already use digital content on an unofficial basis.

Incorporating digital content in the curriculum of the educational technology programme is consistent within Kuwait's Vision 2035, which requires that Kuwaiti education meet 21st-century requirements (Al-Diwan Al-Amiri, 2018). It would also align the programme with the MoEIA's objectives for effective implementation of ICT in the ministry's work activities.

A large majority of the academic staff asserted that the programme should meet the needs of the whole job market. They suggested that the entire Kuwaiti job

market should be analysed to identify what sort of content it requires, and they argued that the designers of the educational technology programme should implement the necessary changes within the modules.

6.3.3 Current technology: Lack of technology

A substantial number of the academic staff interviewees agreed that the educational technology programme does not use technology adequately, mainly because the university's approach is based on face-to-face lecturing and communication. They pointed out that the programme itself registers student attendance manually, the department does not have a website, the university does not maintain an email server, and importantly, the college policy does not even authorise the use of email communication.

While most of the academic staff members were very optimistic about the use of technology to support students' learning, they wanted to use technology only superficially, for tasks like taking the register online, using smartphones, and making content available to the students electronically by using online resources such as video clips. Studies by Cuban, Kirkpatrick, and Peck (2001) and Leach and Moon (2000) also found that even when technology was accessible to their students, academic staff employed technology only superficially in their teaching. This finding can be explained by reference to the importance of pedagogy and content when using technology. For successful integration of technology, educators need to consider the knowledge base, content, pedagogy and technology, along with the interactions among them (Koehler & Mishra, 2009). This underscores how the TPACK framework can empower resourceful and effective strategies for technology integration in the classroom (Kirikcilar & Yildiz, 2018; Koh et al., 2015; Reyes et al., 2017).

6.3.4 Technology that should be implemented

6.3.4.1 Learning and communication via social media

Several individual members of the academic staff explained that they had tried to change the current situation and move towards digital technology. Cox, Cox and Preston (1999) argued that academic staff who placed a high value on technology and saw it as being useful did use it in their teaching, and some academic staff in this study reported using email, websites and YouTube.

The academic staff saw social media applications as a very useful tool for supporting their students' work and forming the students into a community of learners who could then help each other. All academic staff members agreed that social media applications greatly benefit their students and that the apps are advantageous for a number of reasons. First, they are already widespread, with the vast majority of the academic staff and students having access to them. Second, since smartphones are usually carried at all times, the apps are direct and instantaneous, which is especially helpful for announcements sent out at short notice. Third, communicating via these tools saves time and effort on the part of both academic staff and students, as compared to communicating face-to-face. Similar advantages have been found in other studies (Alfelaij, 2015; Bansal & Joshi, 2014; Bouhnik et al., 2014).

Some academics explained that engaging in online discussions on social media allowed students to pose questions and help one another with learning. In regard to this good practice for the use of social media, a study by So (2016) found that online discussions using WhatsApp enabled academic staff to engage learners in academic discourses by posting questions and eliciting responses. So's (2016) research elaborated the pedagogical affordances of social media and how it can

promote learning through dialogue; he explained that social media has the advantages of over-the-top content services, meaning ‘the delivery of media contents such as video, audio, images, or texts over the Internet rather than via dedicated service providers or exclusively over mobile carriers’ (p. 34). In the current study, both students and academic staff members stressed the usefulness of social media for teaching, learning and interaction. They emphasised the affordances of social media, which stimulate learning and teaching, and support dialogic pedagogy. These pedagogical affordances include spontaneous communication, the ability to exchange images, and the sharing of captured video clips in teaching and learning activities (So, 2016). As reported by the students and staff members in the present study, the entire range of social media enables social behaviour through dialogue and multi-way discussions, and by providing the opportunity to discover and share new information (Hamid, Waycott, Kurnia, & Chang, 2015; Odewumi et al., 2017).

Neither the academic staff nor the students in this study had any problems accessing the Internet through their own smartphones. Within the programme, however, the use of social media for purely educational purposes was very limited, mainly due to the absence of a clear pedagogy and the lack of understanding of the affordances of social media. This finding emphasises the role of academic staff in stimulating, initiating and guiding dialogue and in learning involving social media like WhatsApp, blogs and YouTube. The students and staff members made an argument similar to that made by the teacher Laurillard in So's (2016) study, who stated, ‘The teacher is the key to innovations. Learners cannot be entirely left alone to learn and work independently’ (p. 40). To use social media effectively, academic staff must choose the right technology with the appropriate learning materials, and they must use the technology to support the learners in

constructing their own knowledge (Au & Lam, 2015; So, 2016; Sobaih, Moustafa, Ghandforoush, & Khan, 2016).

The majority of academic staff interviewees utilised technology and social media in their teaching as tools for course content delivery, grade delivery and basic communication, but the use of technology and social media was limited due to the absence of a clear pedagogy. Sobaih et al. (2016) suggested that embedding ICT in the teaching process requires academic staff to take on a new role: that of a facilitator who guides and encourages student discussions. As discussed previously, the students in the present study pointed out the lack of face-to-face interaction between students and their academic staff. Therefore, this study concurs with Au, Lam and Chan (2015) that using ICT as a learning tool requires institutions to enact a new pedagogical approach.

One of the findings of this study is that having access to specific ICT tools plays a role in shaping the approach of academic staff members to the ICT and pedagogies they use with their students online. It was found that both academic staff and students have access to a limited range of social media (e.g., WhatsApp, Twitter and YouTube), and they use them. This finding is consistent with a study by Burden and Atkinson (2008), who argued that the affordances of a specific technology (e.g., WhatsApp, Twitter or YouTube) cannot be separated from other considerations, such as the social and cultural settings in which the learning is situated. The present study is also in line with that of Kim, Sohn, and Choi (2011), which underscored the influence of culture on the different motivations of American and Korean college students in using social media.

The current study shows that for a minority of the academic staff, their pedagogical use of social media in learning was influenced by their perceptions of

the proper social boundaries between students and academic staff. They explained that when they interacted with their students on social media, they preferred to maintain those boundaries; therefore, this group of academics chose to interact using their personal email accounts. This finding, regarding the influence of social media on the social boundaries of a group, can be explained by examining the characteristics of computer-mediated communication (CMC) in relation to social influences in groups (Postmes, Spears, & Lea, 1998). Postmes et al. (1998) contended that CMC in ICT interactions like WhatsApp reduces the 'limitations that the physical boundaries impose on people's social contacts' (p. 693), which explains the reluctance of some academic staff members to communicate socially with students. The staff members might have this negative view because of the characteristics of CMC and because of the possibility that students might break down the physical boundaries after breaking down the social boundaries imposed by traditional norms and social roles (Postmes et al., 1998).

The views of the academic staff towards technology, and towards the integration of technology in their teaching, influenced how they use technology with their students. They were more likely to adopt new technology (such as YouTube, WhatsApp and email) if they could use it in accordance with their existing professional beliefs and practices. This finding is consistent with those of other studies which examined the relationships among the pedagogical views, use of technology and instructional decisions of academic staff (Levin & Wadmany, 2006; Mumtaz, 2000; Windschitl & Sahl, 2002). Veen (1993) also found that academic staff were more likely to implement new technology if they could use it in accordance with their existing views of pedagogies and practices, and Ertmer, Gopalakrishnan, and Ross (2001) found that the views of academic staff towards technology were related to how they used technology with their students.

It is clear from the data in the present study that academic staff members each followed their own style when using technology; in other words, no clear pedagogical/technology principles were applied, as some of them used YouTube, some used WhatsApp, and some used email. This demonstrates that when there is no clear institutional vision in regard to technology, the integration of technology in higher education is an individual process (Ertmer, 2005; Hamrick, 1999; Levin & Wadmany, 2006). This also explains the diverse practices referred to by the academic staff interviewed in this study, which revealed that there is inconsistency among the academic staff regarding even the content they teach and how they teach it. A small number of academic staff members used social media with their students in a constructive way, helping to set up active group work and interactive communication with the students, or actively participating in online discussion groups. This finding can be elaborated on by reference to studies on TPACK, which proposed that technology alone does not bring about change in the learning environment; in reality, the pedagogical decisions of academic staff are also important in matching their use of technology to specific learning goals (Ertmer, 2005; Hamrick, 1999; Lye, 2013; Reyes et al., 2017; Urban, Navarro, & Borron, 2017).

One good practice identified with both academics and students in the present study is the collaborative work that occurs between academic staff and students when they share and discuss materials related to the module (such as links, photos and video clips) via WhatsApp groups. Even though academic staff applied this approach without a clear pedagogy, both they and the students favoured this approach because it allowed them to share materials with the module group so that the majority of the students benefited from WhatsApp groups. Nevertheless, in a positive practice, the use of much clearer pedagogy improves the teaching

practices, which in turn helps the students to work together as a community of learners (Maor, 2013; Mourlam, 2017; Timur & Taşar, 2011). Mirroring the findings of the present study, Cisco Systems (2008) found that active and learner-centred teaching methodologies led to students learning and improving their higher-level critical thinking. In this sense, the social presence of the academic staff and the students, through technology, helped improve the activity and efficiency of the group (Hassanein & Head, 2014; Tu & McIsaac, 2002).

6.3.5 Resources

6.3.5.1 Current resources

Most academic staff spoke of technology principally in terms of availability and access. There were some resources in the department, but they were not functional because they were old and outdated. Academic staff reported that the department's shortage of suitable computers, combined with the lack of TV and sound studios, meant that media and computer modules could not be taught effectively. All of the academic staff who were interviewed saw the department as lacking in resources, including computers, Internet service and equipped studios. Since the department relied on personal initiatives, the academic staff brought in their own electronic devices, and students ended up bringing in their personal devices so they could work with classmates on projects and follow the lectures. Most of the resources that had previously been used for the module, such as overhead projectors and old filmstrip devices, are no longer even available, and this is why research participants complained that they studied from a theoretical perspective only. The situation in the educational technology programme is thus in contrast with the suggestion by Collins et al. (1991) that resources should be aligned with real world requirements. In general, despite the high level of spending

on the sector, higher education in Kuwait has major issues that need to be resolved (Ayoub, 2012). This may be because there is a lack of educational experts working in the sector (Spector et al., 2014).

6.3.5.2 Resources that should be implemented

All academic staff indicated the need for the department to acquire appropriate new resources to enable them to be more effective in teaching educational technology topics, and various studies confirm this (Beetham, 2012; Cooner, 2010; Kirkwood & Price, 2013) The staff stated that it was hard to continue teaching without having in place certain basic requirements such as:

- computer rooms equipped with effective Internet service, computers and display screens to enable instructors to monitor and follow up with their students
- lecture halls with digital projectors, sound systems, and computer-linked screens installed
- fully-equipped studios for teaching the media modules bundle, fitted with systems linked to the lecturer's computer, with layers of insulation in the walls, lighting systems, and computers with related media software and cameras

It is important to note, though, that pedagogy and the way these resources are used remains crucial (Selwyn, 2011; Beetham, 2012; Kirkwood & Price, 2013). Therefore, in the present case of the educational technology programme, it would be useful to decide which pedagogical approach is appropriate for each module before specifying the resource requirements.

Since there is no media studio for the video, sound and radio modules, the academic staff teaches students theory instead of providing practical/technology teaching in this area.

6.4 Discussion of Research Question 3

RQ3: What are the perceptions of MoEIA managers about the educational technology programme graduates in higher education in Kuwait?

6.4.1 Perceptions of MoEIA managers regarding the programme graduates

Many of the MoEIA managers who were interviewed perceived the graduates of the educational technology programme as weak and having limited abilities. When asked to describe the graduates, they used negative labels such as ‘superficial’, ‘weak’ and ‘useless’. Most of the managers claimed that the educational technology programme graduates came with old and outdated technology solutions such as print photography, manual boards, transparency sheets created by hand and puppet-making. They said that the graduates lacked effective team skills and had difficulty coping with the organisational culture within the MoEIA; for instance, they were not on time and showed a lack of interest in the job tasks. Based on the managers’ comments, it is clear that the graduates of the educational technology programme do not meet the MoEIA’s requirements and expectations. This finding is in keeping with that of Mallick and Sousa (2017), who found that since the 1980s, employers have come to prefer technology competencies over skilled labour. Merritt (2014) elaborated on this point, showing that the introduction of technology into the job market has changed the traditional structure of the tasks and skills needed.

A noticeable number of managers reported that the students lacked professionalism – demonstrated, for example, by their not arriving on time and not showing interest in the job tasks. These findings might reflect the situation in the Educational Technology Department, where some of the academic staff modelled inconsistent practices themselves, such as not having – or at least not committing to – fixed office hours. Two of the MoEIA managers agreed with this explanation, but another one, who was an educational technology graduate himself, argued that the weaknesses in educational technology programme outcomes were due to the department's lack of resources and facilities, as well as the outdated curriculum content.

The data shows that most of the managers complained that the educational technology graduates lacked communication skills and brought with them outdated solutions such as making puppets and using overhead projectors to display transparencies that they created manually. These obsolete solutions and outdated skills might be the result of the curriculum content taught in the department, which was deemed to be superficial and antiquated, along with the department's lack of suitable resources and facilities, as perceived by both academic staff and students. Similarly, in the context of Palestine, Rabayah and Sartaw (2008) argued that information technology graduates were completing their higher education without acquiring the skills needed to enter the labour force, which had caused frustration in the industry regarding university technology programmes (Mulhaney, Sheehan, & Taylor, 2004). Technology-rich job markets favoured highly skilled workers since they have better digital skills and lower training costs (Humburg & Van der Velden, 2017), but in Kuwait, most employers provide training courses for new graduates because they arrive with a lack of

knowledge and skills – and this is a large expense for them to shoulder (Alessa, 2017).

These weak outcomes, as well as the gap between the skills that were required, as opposed to those that were taught, were also found by Albadir (2014) in a study conducted at Kuwait University (KU). Her study had a wider scope than the present study, since she interviewed educators, students and managers in both the private and public sectors. Albadir (2014) found a disparity between what the job market needed and what KU was teaching, and she identified a gap at KU regarding knowledge and skills. Al-Rashed (2012) similarly found that KU students lacked an understanding of accounting concepts. One criticism of Albadir's (2014) study was that it covered a range of subjects instead of focusing on one specific subject; as a result, it provided a general view regarding the studied subjects, rather than insights into a single subject. The present study, by contrast, focuses on the specific subject of educational technology, thus providing a particular view and specific results that can be used to enhance programme outcomes in terms of the performance and skills of its graduates. Al-Rashed's (2012) study also focused on a specific subject (accounting), but as a purely quantitative study, it failed to interview students and academic staff. The present study, however, did interview students, members of academic staff and MoEIA managers (as key recipients of the educational technology programme outcomes). As has been stated, the MoEIA managers argued that the department's outcomes were ineffective in terms of developing the students' skills with regard to communication with other team members.

The MoEIA managers were asked to define their requirements for educational technology graduates, and many of them indicated that what was needed was a

set of digital technology and 21st-century skills, including in the areas of digital media, social networking, social network marketing, problem-solving and website design. Similar skills and knowledge were identified in other studies as 21st-century skills (Griffin & Care, 2014; Voogt & Roblin, 2010). In this sense, Mallick and Sousa (2017) found that technology had a positive and significant relationship both with the ratio of skilled to unskilled labour and with the skilled-to-unskilled wage ratio. The skills and knowledge sought by MoEIA managers were consistent with the Kuwait 2035 vision, which strongly urges educators to evaluate the educational system and enhance it so that it matches the requirements of the current technological era (Al-Diwan Al-Amiri, 2018). Likewise, the MoEIA vision calls for the ministry to be a pioneer in governmental work, and its six core goals include applying effective technology and communications, as well as establishing local and international partnerships (MoEIA, 2017). Specific skills, including the aforementioned digital technology and 21st-century skills, are required to help not only the MoEIA, but also the whole nation, to achieve its vision. Humburg and Van der Velden (2017) argued that higher education 'should produce graduates who are not only experts in their own field, but at the same time also flexible, innovative, strategic, communicative, and internationally oriented' (p. 13), listing qualities which will prepare students to make a good start and then flourish in the workforce.

The interviews with MoEIA managers highlighted a mismatch between the graduates' technology competencies and the demands of the job market (Al-Rashed, 2012; Albadir, 2014; Ayoub, 2012). The managers emphasised digital technology skills including media and social networking skills, as well as website and graphic design. Other desirable skills included critical thinking, marketing, communications, teamwork, and lifelong learning and problem-solving skills.

Gunawardena and Samaradiwakara (2017) showed that basic technology is an essential component for today's job market, and they pointed out that employers blame universities when graduates do not have the mandatory technology knowledge and skills for the job market (Samaradiwakara & Gunawardena, 2017; Shongwe, 2015). The Educational Technology Department must consider these requirements and translate them into improvements in the department's curriculum content which will ensure that its students acquire these skills (Herath & Ranasinghe, 2011; Weligamage & Siengthai, 2003).

The rise of the Internet for both communications and service delivery has greatly impacted the policies of organisations in terms of employability (McQuaid & Lindsay, 2005). The MoEIA (2016) strongly emphasised the use of technology in its Strategic Plan, which is important in relation to this study. Furthermore, the ministry's leaders have asserted that deploying effective technology in their projects is pivotal for their vision (MoEIA, 2017). Most of the MoEIA managers who were interviewed clearly expressed their expectations regarding the educational technology programme outcomes. It can be stated, then, that digital technology is required by the Kuwait MoEIA, as confirmed by their policies and by the interviews with their managers.

The findings of this study confirm the relationship between the technology skills of graduates and their employability, and this agrees with Felstead, Gallie, Green, and Zhou (2007). It is important to point out that the Educational Technology Department's educational technology programme is one of the few such programmes in Kuwait. Consequently, the department's outcomes will be expected to play a fundamental role in bringing about progress in the area of technology across different organisations in Kuwait, specifically the MoEIA and the

MoE, who are two of the main employers of graduates from the educational technology programme. The Kuwaiti government's vision of technology and employability was discussed by Marios, Papagerasimou, Drigas, Raftopoulos, and Nikolaidis (2017), who explained that the establishment of new careers and the development of existing jobs requires ongoing employee education and development of technology skills; this, in turn, will help Kuwaiti organisations to become more competitive. In the same vein, Oye, Shallsuku, and Iahad (2012) highlighted the need for government technology policies to support university undergraduates in using technology for their academic work.

6.4.2 Perceptions of MoEIA managers regarding required knowledge and skills

MoEIA managers stressed that graduates need to be generally competent with technology; they should have strong communication skills, be able to use social media and a smartphone to communicate with the work team, and be proficient in design programmes such as Adobe, Photoshop and others. The interviews with all the managers indicated that social and communication skills using social media were prerequisites to being hired. Lindsay (2005) also found that those who are able to exchange ideas and information online can often transfer their 'virtual' activities and relationships to the 'real world', and these skills are attractive to employers (Belt & Richardson, 2005).

6.5 Summary

This chapter has discussed the implications of the key findings that emerged from data analysis of the interviews and focus groups, in relation to the wider literature, and these findings have been interpreted through the lens of sociocultural theory

and TPACK. The main focus was on understanding the perceptions of students, academic staff members, and MoEIA managers towards educational technology.

There is evidence that the students, academic staff, and MoEIA managers mostly agreed that the circumstances of the educational technology programme rendered the programme ineffective. This chapter dealt with the main themes which emerged from the qualitative data analysis: pedagogy, technology and resources. The data analysis confirmed that the pedagogy, technology and resources did not meet the expectations of students, academic staff or MoEIA managers. The findings from the analysis of the participants' statements show that there is a need to improve the pedagogy, technology, and resources of the programme if it is to meet the needs of the job market. The study participants confirmed that the pedagogy should be blended, that digital technology content (such as websites and social media) should be added, and that classrooms and studios should be furnished with state-of-the-art resources. The next chapter will set out the study's conclusions.

Chapter 7: Conclusions

7.1 Introduction

This chapter outlines the conclusions of the study. Section 7.2 highlights the main findings, summarising the answers to the research questions and making links to theory and the existing literature. Section 7.3 sheds light on the limitations of this study by discussing how additional methods, samples, and data might have improved it. Section 7.4 is devoted to the original contributions of this study, demonstrating how it adds to the current body of knowledge. Section 7.5 sets out the recommendations that would improve the quality and relevance of educational technology teaching in Kuwait. Finally, Section 7.6 suggests avenues for future research.

7.2 Main findings

This section concentrates on answering the main research question and its sub-questions. The main question is:

> **To what extent is the educational technology programme in higher education in Kuwait effective in matching the government's vision?**

General answers will be given for each sub-research question, presenting the general perceptions and experiences of the academic staff and students, and managers at the MoEIA.

7.2.1 SRQ1

What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by students?

Considering the negative experiences that students reported in relation to an ineffective pedagogy, it can reasonably be concluded that they view their courses as ineffective. They believe that the curriculum content is obsolete, pointing to outdated activities they still study, such as making models and puppets, as well as outdated technology including slides created manually and film (rather than digital) photography. In addition, they study on a theoretical rather than a practical basis, without hands-on opportunities to actually use the technology they are expected to learn about. They shared their negative attitudes towards the teaching approach that the academic staff use in the classroom, with most students claiming that there are no methods that present content in a practical manner; everything is purely theoretical. The students asserted that this sort of content does not prepare them for the current job market. Therefore, they were critical, and they recommended introducing a digital curriculum as a useful change that should be implemented to the delivery of the educational technology programme. The students emphasised that instead of studying manual, outdated content, they should focus on using digital content through computers and software, such as graphics and media software; also, digital media and advanced digital photography skills should be taught. Their views may be influenced by the fact that they already have access to computers, smartphones, and the Internet. In any case, implementing digital content is in line with governmental policies that call for increased digital technology (Al-Diwan Al-Amiri, 2018; MoEIA, 2017). Notably, from a constructivist pedagogy perspective, Biggs (2014) has argued that all learning activities should be aligned with learning objectives as well as job market needs.

All the students agreed that there is a lack of technology within the educational technology programme, and they believed that the programme should make use

of social media and interactive websites. They reported various advantages associated with studying via websites, pointing out that they are easy to access via either PCs or smartphones, can store voice recordings to serve as backups for missed lectures and can provide a clear picture of the various modules. The findings of this study suggest that students see a great deal of potential for social media as a learning and communication tool. Most of them believe that using social media in education is an effective way to connect with their classmates and instructors, and they would prefer to use social media, particularly WhatsApp, or emails to contact their instructors. The study shows that most of the students hold very positive views of the WhatsApp application, believing it to be an easy-to-use, useful communication tool, and they note that everyone has access to smartphones and WhatsApp.

A lack of resources is a key problem in the educational technology programme, because some modules, e.g., the media modules and computer software packages, rely on technological devices. In reality, though, the department has neither a media studio nor suitable computers, and this absence affects the students' views of those module packages. Hence, the students emphasised the need to equip the department with the appropriate resources for learning effectively and obtaining technology skills. According to the students, the computer rooms should be equipped with essentials like effective computers and Internet connections, and the studio rooms need to be fully equipped as well.

7.2.2 SRQ2

What kind of pedagogy, technologies and resources currently exist, and what should be implemented for an effective educational technology programme, as perceived by academic staff?

It can be argued that the academic staff perceive the educational technology programme to be ineffective, for they reported a set of pedagogical issues. They indicated that the curriculum content of the programme is outdated and irrelevant to the requirements of the modern workplace (for example, it uses transparency sheets and film photography). The academic staff criticised the course of study, asserting that it is not right for a specialisation in educational technology to include courses in puppetry and model-making, and to use obsolete tools like transparencies.

Therefore, the academic staff suggested a set of pedagogy elements that they believe should be implemented. They recommended transitioning to digital curriculum content to match the job market requirements, and they confirmed the need to use digital means, such as computers and software (e.g. digital media and graphics), in teaching. They argued that introducing digital curriculum content to replace the existing antiquated technology would be an appropriate change for the educational technology programme. This is broadly consistent with the government's vision, which calls for contemporary higher education that corresponds to 21st century skills (Al-Diwan Al-Amiri, 2018) and to the MoEIA's strategic plan for using digital technology (MoEIA, 2017). In addition, the academic staff agreed that blended learning is a promising mode of delivery for the educational technology subjects because of the advantages of mixing face-to-face and online learning options, and because of its flexibility in terms of the time and place of learning. They are aware that changing from face-to-face to blended learning will not be an easy task, and their recommendations for this process involve building a whole new system for an effective blended learning platform, rather than just adding this one new concept to the existing system. Blended learning must be presented as a comprehensive system if it is to achieve the

promised benefits for design, implementation, maintenance teams, facilities, and academic assistance, because the online part requires extensive time for preparation and follow-up. It is worth noting that Ghaith (2013), Algharib et al. (2012) and Alajmi (2010) have carried out blended learning studies in the same context, and they achieved positive results.

All of the academic staff indicated that the educational technology programme faces the problem of a lack of technology at the department because the university is based on face-to-face lecturing and communication. They criticised the circumstances of the programme in this regard, mentioning that they should not be wasting lecture time with manual registration of students' attendance. They were perplexed as to why the department has no proper website, even though the capability exists among the staff and students to create one. Moreover, the university does not offer an email server, so the academic staff and students resort to using private ones like Gmail and Hotmail. They also suggested implementing ICT (email and a module website), as they view these as good methods of communicating and learning within the programme. However, the academic staff argued that the most important factor is the pedagogical practice in relation to these methods, as discussed in Chapter 6.

All the academic staff interviewed were dissatisfied with the resources available in the Educational Technology Department, noting that the department lacks Internet service and an equipped media studio, and it has unsuitable computers; therefore, they contended that the necessary resources should be installed in order to facilitate effective teaching and learning. They stressed that computer rooms should be equipped with essentials like effective computers and the Internet, and that the studios should be fully equipped. Academic staff members asserted the

need to equip the computers rooms with an effective Internet service, computers, and display screens in order to monitor and follow-up with their students. In addition, they asserted the need to equip lecture halls with needed facilities, such as digital projectors and a sound system, as well as a screen linked to the hall computer.

7.2.3 SRQ3

What are MoEIA managers' perceptions of educational technology programme graduates in higher education in Kuwait?

MoEIA managers perceived the graduates of the educational technology programme to be limited and weak, due to the outdated curriculum in the programme. In addition, graduates had difficulty assimilating into the MoEIA's organisational culture, and they seemed to lack teamwork skills. These findings confirm those of Al-Daihani (2011), Burki (2010) and Ayoub (2012), who found that the skills of HEI graduates did not meet job market expectations. Based on the aforementioned perceptions uncovered by the study, it can be inferred that the educational technology programme is ineffective.

Managers stated that they required graduates who had digital knowledge and skills that would help the ministry to achieve its objectives, since digital technology is central to the MoEIA's (2017) strategic direction, as well as the country's vision, known as Kuwait 2035. They stressed that the educational technology programme should provide graduates with a useful set of skills and knowledge, including 21st-century skills (e.g., teamwork, preparation for an organisational culture, critical thinking, problem-solving and ICT communication skills); digital media skills in video, sound, and graphic design; and skills related to social media and websites

(which they believe are the most important platforms for marketing to and communicating with the people of Kuwait).

7.3 Study limitations

One of the study's limitations is that the researcher himself works in the Educational Technology Department, in which the participants work and study, so there is the potential for an 'insider role' bias. This can have both positive and negative aspects. On the one hand, the researcher had access to the college and the department, prior knowledge of the culture of the college and the department, and experience with the participants and the context; all of these factors helped in conducting the study. On the other hand, there was a risk that some academic staff members might disclose personal information about colleagues that was irrelevant to the research focus. To overcome these issues, the researcher followed a set of procedures that involved having all participants (including academic staff members) sign consent forms, and sending transcripts of their interviews to participants for their verification.

An alternative method of collecting data could have been to use a survey tool. This would have increased the richness and variety of the data collected for the study because surveys are effective tools for obtaining the views of larger numbers of respondents, something that is harder to achieve within focus groups.

The study involved students from Year 4, but it could have been expanded to include other groups of students in Years 1, 2 and 3. This would have given a more comprehensive view of the issues across the complete four-year course.

Also, the study could have included employers in other areas where educational technology graduates are often recruited.

7.4 Original contributions to knowledge

As discussed in the literature review in Chapter 3 and in the discussion in Chapter 6, many authors have touched upon the topics of educational technology and higher education courses in Kuwait, and to what extent these programmes are aligned with job market expectations (Al-Daihani, 2011; Al-Rashed, 2012; Albadir, 2014; Burki, 2010; Ghaith, 2013). However, there has been limited research examining educational technology as a whole programme and linking it to the MoEIA as a job market. The above-mentioned studies focused mainly on measuring specific technology tools in educational settings. For example, Ghaith (2013) focused on how discussion tools could boost the academic achievements and engagement of students. Buarki (2010) and Al-Daihani (2011), on the other hand, examined information- and library-related courses, and to what extent these were effective. Al-Rashed (2012) focused solely on an accounting programme and used quantitative data collection only.

All the studies reviewed above were focused on educational settings; they did not go further and investigate the perceptions of employers – with the exception of Albadir (2014), who examined higher education programmes and work fields but did not include technology-related programmes or the MoEIA as a specific job market. The present study therefore makes the following noteworthy contributions to the body of knowledge regarding educational technology programmes in Kuwaiti higher education:

- In regard to theory, this study is the first to identify what stakeholders such as students, academics and employers consider to be effective pedagogy, technologies and resources that will help ensure that future educational technology employees match MoEIA expectations.

- In regard to practice, the study offers recommendations to help educational technology departments match the needs of the MoEIA job market in Kuwait.
- In addition, the recommendations present guidelines for updating the educational technology curriculum and making a transition from a primarily face-to-face mode of delivery to a blended mode of delivery.

7.5 Recommendations

This section sets out the recommendations of this study concerning the pedagogy and resources needed to prepare graduates for the job market expectations and to ensure that they are in step with the country's vision, Kuwait 2035.

7.5.1 Recommendations regarding effective pedagogy

Recommendation 1: Consistent teaching pedagogy: As there is currently no blended learning, it is recommended that it be introduced. Features such as a community of practice, workshops, discussions, and group projects should be deployed as part of a blended learning module strategy. Teaching strategies should be appropriate for the different modules, and the objectives of each module must be clearly stated for students, accompanied by course specifications and a syllabus. Students should have access to basic information about the modules they are enrolled in, including the lecture times, academic office hours, and assessment criteria. Social constructivist principles state that students will learn more when there are opportunities for dialogue with academic staff (Driscoll, 2000; Schunk, 2012). In addition, Biggs (2014) argued for a constructivist pedagogy, in which all learning activities are fully aligned with the learning objectives as well as job market needs.

Recommendation 2: Use of Blended Learning: Academic staff viewed blended learning as a promising mode of delivery for the educational technology programme. It is recommended that this be implemented gradually, with the online part initially making up a small percentage of each module (for example, 25%), while the face-to-face component remains dominant (perhaps 75%) at first. After three face-to-face lectures, for example, one lecture might then take place online, with students studying it on their own. Later, the percentage of online lectures could be increased gradually, after seeking feedback from academic staff and students to assess the formula.

To reduce the need for face-to-face meetings, and in turn reduce the demands that students make on academic staff, the staff must provide clear and thorough information to their students; this should include all necessary information about each module, either via the syllabus, the module website, or a learning management system like BlackBoard or WebCT, as applicable.

If websites are used, they should contain the topics and dates of lectures, past assignments and voice recordings of previous lectures, as well as a forum for online discussion. Also, arranging an induction week for students would help to ensure clear and accessible communication between students and academic staff.

Recommendation 3: Content of Modules: It is important to create module content that corresponds to the needs of the recipients of educational technology graduates, because the students will eventually be employed in these organisations. This study has identified the qualities most sought after by the MoEIA, namely: teamwork; preparation for the MoEIA's organisational culture; critical thinking and problem-solving skills; digital media skills in video, sound, and graphic design; and skills relating to social media and websites (which are

considered the most important platforms for its marketing efforts). Therefore, it is recommended that the design of educational technology modules be based on this content – and also that all academic staff teaching the same module follow the same content. In other words, there should be greater congruity in the content as well as the pedagogy amongst academic staff.

All of the modules should adhere to Kuwait's Vision 2035 goals. All of the participants in this study (academic staff, students and MoEIA managers) recommended that digital content should be a part of the required curriculum for the educational technology programme, so as to align it with government policy, particularly as laid out in the Emir's Vision 2035, in which digital technology is promoted as a vehicle for achieving local and global objectives (Al-Diwan Al-Amiri, 2018). This would also ensure that it is aligned with the MoE vision for higher education, which calls for teaching Kuwaiti students digital knowledge and skills, and with the MoEIA's (2017) vision.

Recommendation 4: Communication: There is a need to improve communications between students and academic staff, so both face-to-face and online communications are fundamental, and social media should be used more widely for this purpose. This study recommends the creation of social media accounts for the department, to be managed by one or two staff members, to keep students informed about any new and important information and to answer any potential student enquiries; this would reduce frustration amongst students. In addition, email should be activated as a formal means of communication, and this has been approved by the government. It would also be helpful for the module syllabi to include information about all the different means of communication available.

7.5.2 Recommendations regarding effective resources

Recommendation 1: Classroom equipment: It is recommended that classrooms be equipped with the appropriate resources, including digitalised overhead projectors with designated computers and a proper sound system for effective lecturing. In addition, lecture halls should be equipped with needed facilities, such as digital projectors and sound systems, as well as screens linked to the lecture hall computer. The college must also provide Internet service and furnish the media studios with state-of-the-art equipment. A workable approach to equipping the classrooms would be to focus at first on only one to three classrooms, designating them to host the new versions of the modules, and then gradually expand to the other classrooms.

Recommendation 2: Computers: Desktop computers are at the heart of educational technology, because the desired technology (e.g., multimedia and graphic design) is digitalised. It is hard to teach this type of technology without having suitable computers available; therefore, the key to having effective resources is ensuring that the computer laboratories contain a sufficient number of desktop computers and that they are kept in good working order. The next step would be to install the required multimedia and graphic design software.

As for the issue of high student demand for computer labs, one solution would be to rigorously enforce a timetable for all computer lab modules. It would also be helpful to allocate at least one technician for each computer laboratory, particularly at the beginning of the new teaching module, so he or she could immediately rectify any issues that come up.

The findings of this study indicate that most of the academic staff viewed introducing blended learning as a useful change for the educational technology

programme. This is due in part to its flexibility in regard to time and place, as it applies to both face-to-face and digital technology communication and learning – for instance, through the use of digital technology means and applications. Before introducing a blended learning mode of delivery, the college needs to equip the campus with the required facilities and resources, and it must authorise digital means of communication technology.

7.6 Future research

This study dealt mainly with academic staff members and students, asking them about the match (and mismatch) between the content of the educational technology programme and the needs of the labour market. The findings highlighted the impact of the pedagogy, technology and resources on the preparation of students for the job market. There is obviously a need to identify how both employees and employers see the job market and to determine how the programme can be developed to respond to these views.

The participants in the study agreed that the current course content is not fit for purpose; therefore, the main question now is what sort of educational technology curriculum content is required. Educational technology is not internationally homogeneous, and future research, going beyond the scope of this study, is required. A study that examines the skills needed for the job market, as well as the relationship between internships in the ICT sector and the incorporation of placements in degree-level education will be helpful.

This study used TPACK as a framework for understanding the views of academic staff members toward the integration of technology. Based on the findings of this study, further research is needed to measure the teaching knowledge of academic staff members; this could potentially have an impact on the type of professional

development needed to support them in integrating technology in their teaching. That study could also examine the awareness of instructors regarding Kuwait's Vision 2035 and the challenges they face in putting this vision into practice.

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Appendix A: Ethical approval by IoE Ethics Committee, University of Reading

University of Reading
Institute of Education
Ethical Approval Form A (version September 2013)

University of Reading

Tick one:
Staff project: ___ PhD Yes

Name of applicant (s): **Yousif H. Alanezi**

Title of project: **Educational Technology in Kuwait: Stakeholders' Perspective towards Further Development in Higher Education**

Name of supervisor (for student projects): **Prof. Andy Goodwyn and Dr. Berry Billingsley**

Please complete the form below including relevant sections overleaf.

	YES	NO	
Have you prepared an Information Sheet for participants and/or their parents/carers that:	Yes		
a) explains the purpose(s) of the project	Yes		
b) explains how they have been selected as potential participants	Yes		
c) gives a full, fair and clear account of what will be asked of them and how the information that they provide will be used	Yes		
d) makes clear that participation in the project is voluntary	Yes		
e) explains the arrangements to allow participants to withdraw at any stage if they wish	Yes		
f) explains the arrangements to ensure the confidentiality of any material collected during the project, including secure arrangements for its storage, retention and disposal	Yes		
g) explains the arrangements for publishing the research results and, if confidentiality might be affected, for obtaining written consent for this	Yes		
h) explains the arrangements for providing participants with the research results if they wish to have them	Yes		
i) gives the name and designation of the member of staff with responsibility for the project together with contact details, including email . If any of the project investigators are students at the IoE, then this information must be included and their name provided	Yes		
k) explains, where applicable, the arrangements for expenses and other payments to be made to the participants	Yes		
j) includes a standard statement indicating the process of ethical review at the University undergone by the project, as follows: 'This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct'.	Yes		
k)includes a standard statement regarding insurance: "The University has the appropriate insurances in place. Full details are available on request".	Yes		
Please answer the following questions			
1) Will you provide participants involved in your research with all the information necessary to ensure that they are fully informed and not in any way deceived or misled as to the purpose(s) and nature of the research? (Please use the subheadings used in the example information sheets on blackboard to ensure this).	Yes		
2) Will you seek written or other formal consent from all participants, if they are able to provide it, in addition to (1)?	Yes		
3) Is there any risk that participants may experience physical or psychological distress in taking part in your research?		Yes	
4) Have you taken the online training modules in data protection and information security (which can be found here: http://www.reading.ac.uk/internal/imps/Staffpages/imps-training.aspx)?	Yes		
5) Does your research comply with the University's Code of Good Practice in Research?	Yes		
	YES	NO	N.A.
6) If your research is taking place in a school, have you prepared an information sheet and consent form to gain the permission in writing of the head teacher or other relevant supervisory professional?	Yes		
7) Has the data collector obtained satisfactory DBS clearance?			Yes
8) If your research involves working with children under the age of 16 (or those whose special educational needs mean they are unable to give informed consent), have you prepared an information sheet and consent form for parents/carers to seek permission in writing, or to give parents/carers the opportunity to decline consent?			Yes

9) If your research involves processing sensitive personal data[1], or if it involves audio/video recordings, have you obtained the explicit consent of participants/parents?	Yes		
10) If you are using a data processor to subcontract any part of your research, have you got a written contract with that contractor which (a) specifies that the contractor is required to act only on your instructions, and (b) provides for appropriate technical and organisational security measures to protect the data?			Yes
11a) Does your research involve data collection outside the UK?	Yes		
11b) If the answer to question 11a is "yes", does your research comply with the legal and ethical requirements for doing research in that country?	Yes		
12a. Does the proposed research involve children under the age of 5?		Yes	
12b. If the answer to question 12a is "yes": My Head of School (or authorised Head of Department) has given details of the proposed research to the University's insurance officer, and the research will not proceed until I have confirmation that insurance cover is in place.			
If you have answered YES to Question 3, please complete Section B below			

PLEASE COMPLETE **EITHER SECTION A OR B** AND PROVIDE THE DETAILS REQUIRED IN SUPPORT OF YOUR APPLICATION, THEN SIGN THE FORM (SECTION C)

A: My research goes beyond the 'accepted custom and practice of teaching' but I consider that this project has **no** significant ethical implications.	

Give a brief description of the aims and the methods (participants, instruments and procedures) of the project in up to 200 words. Attach any consent form, information sheet and research instruments to be used in the project (e.g. tests, questionnaires, interview schedules).

Please state how many participants will be involved in the project: 7 Academics, and 25 students.
This form and any attachments should now be submitted to the Institute's Ethics Committee for consideration. Any missing information will result in the form being returned to you.

This study aims to identify perceived challenges in four facets of current teaching methods: (1) lecturing, (2) topics, (3) assessment approaches and (4) technology usage. Through the investigation of the perceptions of Educational Technology academics and students at the College of Basic Education, valuable information may be gained for producing an Educational Technology system that represents the perspectives of the academics and students. A pilot study will be conducted to learn whether (1) the study has potential to provide valuable results and (2) the study procedures are practical and useful or need adjustments. I have received permission from dean at the College of Basic Education to conduct both the pilot and main studies.
The proposed instruments are face-to-face interviews with academics and focus group interviews with students. In addition, selected Educational Technology core course syllabi and College of Basic Education policies will be examined.
All information sheets and consent forms will be translated into Arabic, with special care given to word meanings and study procedures.

B: I consider that this project **may** have ethical implications that should be brought before the Institute's Ethics Committee.	

Please provide all the further information listed below in a separate attachment.

1. title of project
2. purpose of project and its academic rationale
3. brief description of methods and measurements
4. participants: recruitment methods, number, age, gender, exclusion/inclusion criteria
5. consent and participant information arrangements, debriefing (attach forms where necessary)
6. a clear and concise statement of the ethical considerations raised by the project and how you intend to deal with then.
7. estimated start date and duration of project

This form and any attachments should now be submitted to the Institute's Ethics Committee for consideration. Any missing information will result in the form being returned to you.

C: SIGNATURE OF APPLICANT:

I have declared all relevant information regarding my proposed project and confirm that ethical good practice will be followed within the project.

[1] Sensitive personal data consists of information relating to the racial or ethnic origin of a data subject, their political opinions, religious beliefs, trade union membership, sexual life, physical or mental health or condition, or criminal offences or record.

Signed: [redacted] Print Name: Yousif H. Alanezi Date March 27th 2014

STATEMENT OF ETHICAL APPROVAL FOR PROPOSALS SUBMITTED TO THE INSTITUTE ETHICS COMMITTEE

This project has been considered using agreed Institute procedures and is now approved.

Signed: [redacted] Print Name Daisy Powell Date 30/5/2014
(IoE Research Ethics Committee representative)*

* A decision to allow a project to proceed is not an expert assessment of its content or of the possible risks involved in the investigation, nor does it detract in any way from the ultimate responsibility which students/investigators must themselves have for these matters. Approval is granted on the basis of the information declared by the applicant.

Appendix B: Academic staff information sheet and consent form

Academic staff information sheet

Research Project:	Educational Technology in Kuwait: Stakeholders' perceptions' towards Further Development in Higher Education
Project Team Members:	Yousif Alanezi, Prof. Andy Goodwyn and Dr. Berry Billingsley

We would like to invite you to take part in a research study about Educational Technology teaching method.

What is the study?

The study is part of a PhD dissertation I am completing at the Institute of Education, University of Reading, and is funded by PAAET. It aims to investigate perceived challenges in the following facets of current teaching methods: (1) lecturing, (2) topics, (3) assessment approaches, (4) technology usage and (5) your own teaching experience. The study methods include interviewing academic participants and students to obtain their perceptions about challenges associated with these facets of teaching. The core course syllabi and college policy will also be examined. The goal of the study is to provide recommendations for ways the Educational Technology course might inspire student progress and prepare students for after graduation, as they embark on their career paths. The study will involve academics who are currently teaching and year-four students of Educational Technology who have completed at least 100 credit points during summer term 2013/2014 and the second term of academic year 2014/2015. The Academics and students will be audio recorded during the interviews. The recordings will be transcribed and anonymised before analysis.

Why have I been chosen to take part?

You have been invited to take part because you have expressed an interest in being involved in the study and because you are teaching core courses in the Educational Technology course.

Do I have to take part?

It is entirely up to you whether you participate. You may also withdraw your consent to participation at any time during the project, without any repercussions to you, by contacting the Project Researcher, Mr. Yousif , Tel: [redacted], email: [redacted]

What will happen if I take part?

You will be interviewed and asked about your perceptions concerning several facets of current teaching methods: (1) lecturing style (2) topics, (3) assessment approaches, (4) technology usage, and (5) your own teaching experience. The interview should take approximately 30 minutes. To obtain additional information on current teaching methods, Mr Yousif may request a copy of your core course syllabi.

What are the risks and benefits of taking part?

The information you give will remain confidential and will only be seen by the research team listed at the start of this letter. Neither you, the student or the College will be identifiable in any published report resulting from the study. Information about individuals will not be shared with the college.

Participants in similar studies have found it interesting to take part. We anticipate that the findings of the study will be useful for Academics in planning how they teach Educational Technology.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. The records of this study will be kept private. No identifiers linking you, the students or the College to the study will be included in any sort of report that might be published. Participants will be assigned a number and will be referred to by that number in all records. Research records will be stored securely in a locked filing cabinet and on a password-protected computer and only the research team will have access to the records. The data will be destroyed securely once the findings of the study are written up, after five years. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

What happens if I change my mind?

You can change your mind at any time without any repercussions. During the research, you can stop completing the activities at any time. If you change your mind after data collection has ended, we will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact Professor Andy Goodwyn, phone[redacted], Email: [redacted]

Where can I get more information?

If you would like more information, please contact Mr. Yousif Alanezi.
Tel: [redacted], email[redacted]
This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

We do hope that you will agree to your participation in the study. If you do, please complete the attached consent form and return it, sealed, in the pre-paid envelope provided, to us.

Thank you for your time.

[redacted]
Yousif Alanezi

University of Reading

Research Project: Educational Technology in Kuwait: Stakeholders' perceptions' towards Further Development in Higher Education

Academic Consent Form

I have read the Information Sheet about the project and received a copy of it.

I understand what the purpose of the project is and what is required of me. All my questions have been answered.

Name of Academic: _____

Please tick as appropriate:

I consent to making interview. ☐

I consent to recording the interview. ☐

I consent to providing some core courses syllabi. ☐

Signed:_____

Date: _____

Principle researcher: Yousif Alanezi
Phone: 00447963511341/0096599828008
Email: Y.H.K.S.Alanezi@pgr.reading.ac.uk
First supervisor: Professor Andy Goodwyn
Phone: +44 (0) 118 378 2602
Email: a.c.goodwyn@reading.ac
Second supervisor: Dr Berry Billingsley
Phone: +44 (0) 118 378 2655
Email: b.billingsley@reading.ac.uk

University of Reading

ورقة المعلومات

مشروع البحث: تكنولوجيا التعليم بالكويت: وجهات نظر أصحاب العلاقة من أجل التطوير بالتعليم الجامعي

فريق المشروع: يوسف العنزي، أ.د. آندي قوويين، د. بيري بيليسنقلي

يطيب لنا أن ندعوك للمشاركة بالبحث الذي يهدف لمعرفة وجهات النظر حول طرق تدريس تكنولجيا التعليم.

ما هو البحث؟

البحث عبارة عن جزء من رسالة دكتوراه أقوم بها بكلية التربية بجامعة ردنغ بالمملكة المتحدة. تهدف الدراسة لمعرف التحديات التي تواجه تدريس تكنولوجيا التعليم في الأوجه التالية:

١. المحاضرات
٢. الموضوعات التي تدرس
٣. طريقة التقييم
٤. التكنولوجيا المستخدمة

الدراسة ستستخدم المقابلة مع أعضاء هيئة التدريس و المقابلة الجماعية المركزة مع الطلبة، بالاضافة لدراسة توصيف المقررات الالزامية وسياسة الكلية.

لماذا تم اختياري للمشاركة؟

تم اختيارك للمشاركة بهذه الدراسة لأنك أحد المدراء بوزارة الاوقاف، ولا سيما وأنه لديكم حاجة لتخصص تكنولوجيا المعلومات أو تكنولوجيا التعليم.. لذلك خلال فترة عملك مرت عليك تجارب كثيرة بهذا المجال.

هل يجب علي المشاركة؟

إن هذا الأمر يرجع لك وأنت وحدك من يحدد. كذلك باستطاعتك الانسحاب بأي وقت من المقابلة بدون احراج، كل ما هو عليك ابلاغ يوسف العنزي بالانسحاب، عن طريق التواصل معه بالمعلومات أعلى الصفحة.

ماذا سيحدث إن شاركت بالدراسة؟

مقابلة شخصية ستأأخذ حوالي ٤٥-٤٠ دقيقة سيتم خلالها سؤالكم ومناقشتكم حول مستوى خريجي تكنولوجيا التعليم، وبعد موافقتكم سيتم تشغيل تسجيل صوتي للمقابلة لأغراض التفريغ النصي للبحث.

ما هي الأخطار من المشاركة؟

جميع المعلومات التي ستسجل بالمقابلات ستبقى سرية ولا يطلع عليها أحد إلا فريق مشروع البحث فقط. ولن يكون هنالك أسماء بمتن البحث اطلاقاً. إن المشاركة بالبحث ليس لها أي تأثير عليك بالدرجات بالمقررات لأنه لن يطلع أبداً على هذه المعلومات أي أحداًمن أعضاء هيئة التدريس بقسم تكنولوجيا التعليم.

المشاركين بدراسات مماثلة أبدوا اعجابهم بهذا النوع من الدراسات لأنه يهدف لرفع مستوى التخصص. نسخة من البحث النهائي سيوفرها الباحث لكم في حال طلبها.

مالذي سيحصل للمعلومات؟

أي معلومة يتم الحصول عليها ستبقى بمكان سري وآمن، ولن يكون لها أسماء حقيقية، ستحفظ بشكل خاص. لن يكون هناك أي تواصل بينكم وبين نتائج الدراسة. ستحفظ النتائج بمكان برقم سري بحاسوب الباحث، ولن يطلع عليها سوى أ.د آندي، ود. بيري.
المعلومات ستعدم بعد خمس سنوات
معلومات الدراسة قد تستخدم بالميدان الأكاديمي. نرجو أن توافق على المشاركة بالدراسة. في حال الموافقة يرجى التوقيع على النموذج المرفق.

ماذا اذا حصل خطأ؟
في حالة حصول خطأ أو لأي أي شكوى يرجى التواصل مع يوسف العنزي: ٩٩٨٢٨٠٠٨/
Y.H.K.S.Alanezi@pgr.reading.ac.uk
من أين أحصل على معلومات أكثر؟
بإمكانك التواصل مع يوسف العنزي عن طريق: ٩٩٨٢٨٠٠٨/ Y.H.K.S.Alanezi@pgr.reading.ac.uk

مشروع البحث تمت مراجعته بلجنة أخلاقيات البحث العلمي بجامعة ردنغ، وتمت الموافقة على عمل الدراسة. من الممكن الحصول على كل المعلومات عند طلبها.

شكرًا جزيلاً
يوسف العنزي

ورقة الموافقة

قرأت ورقة المعلومات الخاصة بمشروع البحث.

فهمت غرض الدراسة وما هو المطلوب مني عمله. تمت الاجابة على كل أسئلتي. موافق للمشاركة بالبحث.

أقر بأن مشاركتي تطوعية، وبامكاني التوقف بأي لحظة دون إبداء أي أسباب، ولن يؤثر على درجاتي.

حصلت على ورقة المعلومات ونموذج الموافقة.

يرجى وضع خط مقابل الجمل التالية:

أنا مستعد للمشاركة بالمقابلة ولا مانع لدي من تسجيلها صوتياً.

الاسم:

التوقيع:

Appendix C: Invitation letter to students

Dear Students

I am currently a PhD student at University of Reading. My research subject is about students' perception towards the Educational Technology Department.

I will be really thankful if you can take a part of focus groups. Your participation will make important contribution to the study. As such, your help will be appreciated.

Please have a look on the attached information sheet.

Kindest regards,

Yousif Alanezi

PhD students

Institution of Education

Appendix D: Students information sheet and consent form

Students information sheet

I would like to invite you to take part in a research study about Educational Technology teaching method.

What is the study?

The study is part of an PhD dissertation that I am undertaking at the Institute of Education, University of Reading. It aims to investigate the current teaching method. By interviewing the academics and students and obtain their perceptions towards the current teaching method.

Why have I been chosen to take part?

You have been invited to take part in the project because you have been identified as someone exposures to Educational Technology teaching method at the College of X. All students in last year (those whose passed already 100 credit points) are being invited to take part, to give a sample of learners across a range of ages and proficiency levels.

Do I have to take part?

It is entirely up to you whether you participate. You may also withdraw at any time during the project, without any repercussions to you, by contacting the researching using the details above.

What will happen if I take part?

An interview will be conducted with you at a time convenient to you, lasting about 20 minutes, in which you will be asked about the Educational Technology teaching method. With your permission, this interview will be recorded and transcribed.

What are the risks and benefits of taking part?

The information you give will remain confidential and will only be seen by the researcher and her supervisor. You will not be identified in the final dissertation although some of your responses will be used in it in an anonymised form. Taking part will in no way influence the grades you receive on your course. Information will not be shared with Academics.

Participants in similar studies have found it interesting and useful to reflect on how they learn. We anticipate that the findings of the study will be useful for Academics in planning how they teach Educational Technology. A copy of the findings of the study can be made available to you by contacting the researcher.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used

in this study or in any subsequent publications. The records of this study will be kept private. No identifiers linking you to the study will be included in any sort of report that might be published. Research records will be stored securely in a locked filing cabinet and on a password-protected computer and only the student researcher, Mr. Yousif, and the researcher's supervisor, Prof. Andy Goodwyn and Dr. Berry Billingsley, will have access to the records. The data will be destroyed securely after 5 years.

The data will be presented in my dissertation and possibly in subsequent academic publications. We do hope that you will agree to take part in the study. If you do, please complete the attached consent form.

This application has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. Thank you for your time.

Student Consent Form

I have read the Information Sheet about the project.

I understand what the purpose of the project is and what you want me to do. All my questions have been answered. I agree to take part in this project.

I understand that it is my choice to help with this project and that I can stop at any time, without giving a reason and that it won't have any effect on my grades.

I have received a copy of this Consent Form and of the Information Sheet.

Please tick as appropriate:

I am willing to take part in an interview where Mr. Yousif will take notes ☐

I am willing to take part in an interview which will be recorded. ☐

Name:

Signed:

Appendix E: Managers information sheet and consent form

MoEIA information sheet

Research Project:	Educational Technology in Kuwait: Stakeholders' Perspectives' towards Further Development in Higher Education
Project Team Members:	Yousif Alanezi, Prof. Andy Goodwyn and Dr. Berry Billingsley

We would like to invite you to take part in a research study about Educational Technology teaching method and outcmes.

What is the study?

The study is part of a PhD dissertation I am completing at the Institute of Education, University of Reading, and is funded by PAAET. It aims to investigate Educational Technology course effectiveness. The study methods include interviewing academic participants, students, as well as Managers at MoEIA to obtain their perceptions about challenges associated with these facets of teaching. The core course syllabi and college policy will also be examined. The goal of the study is to provide recommendations for ways the Educational Technology discipline might inspire student progress and prepare students for after graduation, as they embark on their career paths.

The study will involve managers at MoEIA, academics who are currently teaching and year-four students of Educational Technology who have completed at least 100 credit points during summer term 2013/2014 and the second term of academic year 2014/2015. The Academics and students will be audio recorded during the interviews. The recordings will be transcribed and anonymised before analysis.

Why have I been chosen to take part?

You have been invited to take part because you have expressed an interest in being involved in the study and because you are teaching core courses in the Educational Technology discipline.

Do I have to take part?

It is entirely up to you whether you participate. You may also withdraw your consent to participation at any time during the project, without any repercussions to you, by contacting the Project Researcher, Mr. Yousif , Tel: 0000000000000000, email: 0000000000

What will happen if I take part?

You will be interviewed and asked about your perceptions concerning several facets of current course outcmes. The interview should take approximately 30 minutes.

What are the risks and benefits of taking part?

The information you give will remain confidential and will only be seen by the research team listed at the start of this letter. Neither you, the student or the College will be identifiable in any published report resulting from the study. Information about individuals will not be shared with the college.

Participants in similar studies have found it interesting to take part. We anticipate that the findings of the study will be useful for Academics in planning how they teach Educational Technology.

What will happen to the data?

Any data collected will be held in strict confidence and no real names will be used in this study or in any subsequent publications. The records of this study will be kept private. No identifiers linking you, the students or the College to the study will be included in any sort of report that might be published. Participants will be assigned a number and will be referred to by that number in all records. Research records will be stored securely in a locked filing cabinet and on a password-protected computer and only the research team will have access to the records. The data will be destroyed securely once the findings of the study are written up, after five years. The results of the study will be presented at national and international conferences, and in written reports and articles. We can send you electronic copies of these publications if you wish.

What happens if I change my mind?

You can change your mind at any time without any repercussions. During the research, you can stop completing the activities at any time. If you change your mind after data collection has ended, we will discard your data.

What happens if something goes wrong?

In the unlikely case of concern or complaint, you can contact Professor Andy Goodwyn, phone: +44 (0) 118 378 2602, Email: a.c.goodwyn@reading.ac .

Where can I get more information?

If you would like more information, please contact Mr. Yousif Alanezi.
Tel: 00447963511341/0096599828008, email: Y.H.K.S.Alanezi@pgr.reading.ac.uk
This project has been reviewed following the procedures of the University Research Ethics Committee and has been given a favourable ethical opinion for conduct. The University has the appropriate insurances in place. Full details are available on request.

We do hope that you will agree to your participation in the study. If you do, please complete the attached consent form and return it, sealed, in the pre-paid envelope provided, to us.

Thank you for your time.

Yousif Alanezi

Research Project: Educational Technology in Kuwait: Stakeholders' Perspective towards Further Development in Higher Education

Academic Consent Form

I have read the Information Sheet about the project and received a copy of it.

I understand what the purpose of the project is and what is required of me. All my questions have been answered.

Name of Manager: _____

Please tick as appropriate:

I consent to making interview. ☐

I consent to recording the interview. ☐

I consent to providing some core courses syllabi. ☐

Signed:_____

Date: _____

Appendix F: Student participants details

Focus group number	Participant Code	Gender	Age	Passed Credit Points (out of 130)
1	FS-1-1	F	20-29	100
	FS-1-2	F	20-29	100
	FS-1-3	F	20-29	99
	FS-1-4	F	30-39	122
	FS-1-5	F	20-29	100
2	FS-2-1	F	20-29	107
	FS-2-2	F	20-29	109
	FS-2-3	F	20-29	100
	FS-2-4	F	20-29	100
	FS-2-5	F	20-29	100
3	FS-3-1	F	20-29	104
	FS-3-2	F	20-29	105
	FS-3-3	F	20-29	103
	FS-3-4	F	20-29	105
	FS-3-5	F	20-29	103
5	FS-4-1	F	30-39	120
	FS-4-2	F	20-29	117
	FS-4-3	F	20-29	110
	FS-4-4	F	30-39	118
	FS-4-5	F	20-29	100
5	FS-5-1	F	20-29	125
	FS-5-2	F	20-29	112
	FS-5-3	F	20-29	122
	FS-5-4	F	20-29	116
	FS-5-5	F	20-29	116
6	FS-6-1	F	20-29	116
	FS-6-2	F	20-29	110
	FS-6-3	F	20-29	113
	FS-6-4	F	30-39	115
	FS-6-5	F	20-29	115
7	FS-7-1	F	20-29	115
	FS-7-2	F	20-29	115
	FS-7-3	F	20-29	115
	FS-7-4	F	20-29	110
	FS-7-5	F	20-29	117
8	FS-8-1	F	20-29	115
	FS-8-2	F	20-29	120
	FS-8-4	F	20-29	122
	FS-8-3	F	20-29	124
	FS-8-5	F	20-29	108

Table F-1 Details of female student participants

Focus group number	Participant Code	Gender	Age	Passed Credit Points (out of 130)
1	MS-1-1	M	20-29	109
	MS-1-2	M	20-29	107
	MS-1-3	M	20-29	109
	MS-1-4	M	20-29	112
	MS-1-5	M	20-29	100
2	MS-2-1	M	20-29	100
	MS-2-2	M	20-29	110
	MS-2-3	M	20-29	104
	MS-2-4	M	20-29	102
	MS-2-5	M	20-29	111
3	MS-3-1	M	20-29	104
	MS-3-2	M	20-29	109
	MS-3-3	M	20-29	109
	MS-3-4	M	20-29	109
	MS-3-5	M	20-29	107
4	MS-4-1	M	20-29	105
	MS-4-2	M	20-29	120
	MS-4-3	M	20-29	122
	MS-4-4	M	20-29	119
5	MS-5-1	M	20-29	124
	MS-5-2	M	20-29	106
	MS-5-3	M	20-29	224
	MS-5-4	M	20-29	109
6	MS-6-1	M	20-29	125
	MS-6-2	M	20-29	124
	MS-6-3	M	20-29	122
	MS-6-4	M	20-29	124
	MS-6-5	M	20-29	109
7	MS-9-1	M	20-29	110
	MS-9-2	M	20-29	110
	MS-9-3	M	20-29	110
	MS-9-4	M	20-29	106
	MS-9-5	M	20-29	124
8	MS-8-1	M	20-29	117
	MS-8-2	M	20-29	107
	MS-8-3	M	20-29	112
	MS-8-4	M	20-29	119
	MS-8-5	M	20-29	110

Table F-2 Details of male student participants

Appendix G: Sample of generating initial codes

Speaker	Interview with AC8
Researcher	**Please tell me about your qualifications and your teaching experiences? What are your Degrees? How long you have teaching in the department?**
AC8	(For anonymity purposes, this part enclosed)
Researcher	**What do you think about current communication with students? Why?**
AC8	Well, we used to communicate via mobile phone. I would give them my number, and they would call me when needed. Then, email came along, so we communicated by email. Now, after the digital technology revolution, we use WhatsApp and create groups in WhatsApp for specific modules. I think it is a quick and effective way to communicate. It does not take long for students to contact the academic staff. Students communicate with me via email and WhatsApp; however, there are some problems, for example, too many posts from students in WhatsApp and calls at inappropriate times.
Researcher	**How about office hours?**
AC8	Yes, of course. I have weekly office hours for my students.
Researcher	**What do you think about the curriculum content taught in educational technology? Why?**
AC8	Frankly, the curriculum content is inappropriate and is not aligned with the current job market. For example, the module for creating transparent sheets and the educational board are useless, still the manual method and is not aligned with the job market. Academic staff requires students to design manually, maximise by squares and cut using scissors. These sorts of things take a long time and consume students' time. What is required now is to be able to design using computers. For example, an educational board could be taught using graphic design software, and students could print this out wherever they like Frankly, the current curriculum content is outdated. Schools are not asking for transparent sheets and educational boards; however, they are asking for websites, for example, online assessments We need Photoshop software for images. Also, we need newer software for video, like digital media software. These kind of things should be taught to our students. We also need three-dimensional teaching software instead of the current educational board module. Floor Planner is a good option. We are doing our best in order to improve the department's situation, although there are some major obstacles… There are no devices like computers and classrooms facilities in the department.

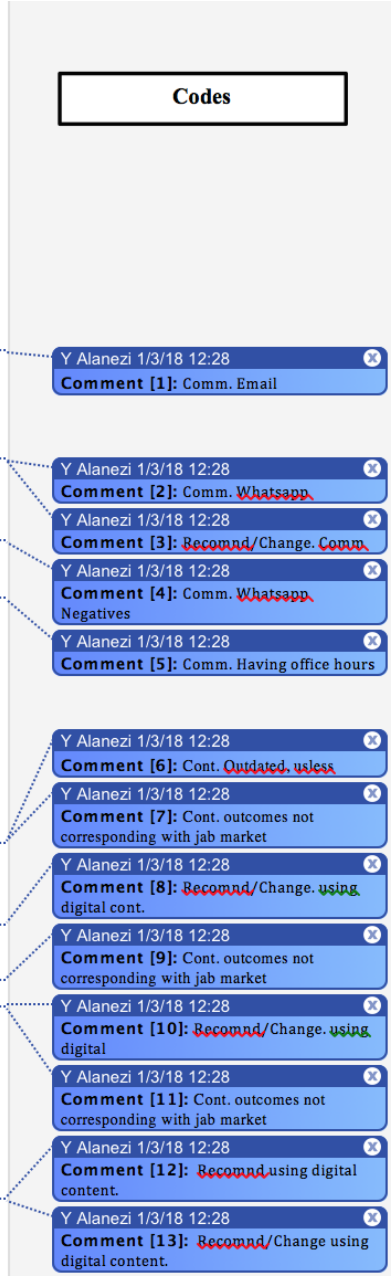

Table G-1 Sample of generating initial codes