E-EFL IN THE SAUDI TERTIARY CLASSROOM: EXPLORING TEACHERS' PERCEPTIONS OF DIGITAL TECHNOLOGY USE FOR E-LEARNING AND LEARNERS' SELF-EFFICACY TO UNDERTAKE HEUTAGOGICAL LEARNING

A Thesis Submitted for the

Degree of Doctor of Philosophy

By

SAHAR FAHAD ALNOFAIE

College of Business, Arts and Social Science, Brunel University London

April, 2023

Abstract

This study explores how digital technologies have been introduced and used in a Saudi e-EFL Higher Education classroom and the degree to which this reflected self-efficacious and heutagogical learning. Despite recent educational reforms in Saudi, the limitations of the educational system make it ill-suited to the needs of the international job market, leaving Saudi graduates under-equipped in an increasingly globalised workforce. Therefore, this quantitative study collected from 41 teachers and 343 university students aims to identify the e-learning experiences of Saudi e-EFL teachers and learners in order to gauge the influence of e-learning integration on the desired progression to learner-centred learning. Additional qualitative data were collected from teachers to be discussed within quantitative data. The data were interpreted and factors influencing learning and teaching methods with digital technologies were analysed against demographic data. The findings revealed that e-EFL teachers are unable to understand how they use ICT technologies and the pedagogical approach they adopt to influence student learning and their capacity to work in a self-directed manner. The present study makes an important contribution to existing research as it provides vital insights for the Saudi educational community to integrate pedagogical transformations into the equation of educational reforms and practices. At a broader level, these insights provide an empirical basis for policymakers and researchers to turn their attention to an issue with the potential to derail important educational reforms aligned with the fulfilment of the Saudi's 2030 Vision which aims to prepare a self-directed workforce for effective participation in national socio-economic development and in the global knowledge economy. Recommendations are made to integrate training in technology, pedagogy and content knowledge for teachers as they would benefit from a better understanding of epistemological, pedagogical and technical issues and skills to promote students' heutagogical learning.

Keywords: heutagogy, self-efficacy, EFL, e-learning, learner-centred

Dedication

This thesis is dedicated to my family members. I will forever be indebted to you. I was the eldest daughter, so it was difficult for them to see their daughter leave the nest and study abroad for a long period of time. Yet, they supported me every step of the way and sacrificed so much by allowing me to completely focus on my studies.

I cannot express how grateful I am to my dear mother for being there for me to support me in every way. Your unconditional love and prayers gave me the strength I needed to pursue this work. Equally, I wish to extend my appreciation to my father for his endless patience and support throughout my doctoral studies. None of this would have been possible without your encouragement, love and your belief in me. This accomplishment is as much yours as it is mine.

To my dear brother Abdulelah who is also my source of strength and the Aaron to my Moses. You were there for me whenever I was down or felt lost. I really appreciate you and I am very grateful to have a brother like you. The value of my appreciation cannot compare with everything you have done for me. I could not have made it this far without your support.

I also wish to dedicate this to my sister, Sarah, whom I scarred for life as she is the one who, unfortunately, has lived with me during the final stages of this journey. Thank you for the therapeutic walks around the park to calm me down after my panic attacks. You were there to cheer me up whenever I was stressed, depressed, and at my worst. Do not let that discourage you though from pursuing your PhD. You know I am such a drama queen and I will be there for you to support you in your journey if you change your mind.

To my younger siblings, Abdulaziz, Shuruq and Amani for their everlasting love and warm encouragement throughout my research. I hope I have made you proud.

To my dear companion in this journey, Jawaher. Thank you for always being there for me. I am so lucky to have shared this experience with you. I am so proud of us for making it this far!

Lastly, I dedicate this to my dear cousins and friends. Thank you all for your moral support and unconditional love; you were my motivation and constant inspiration in PhD journey. I finally made it.

Acknowledgment

While the journey to achieve my PhD was quite tough and challenging, the completion of this research has been assisted by the generous help of many people to whom I owe a great deal of appreciation and thanks.

First and foremost, I would like to express my deep and sincere gratitude to my esteemed supervisor, Professor Mike Watts, for his invaluable supervision, support, and tutelage during the course of my PhD degree. His motivation and cheerful attitude kept my studies grounded when my research direction felt like one of Picasso's paintings during the cubist period. It was a great privilege and honour to work and study under his tutelage and guidance. Thank you, Professor, for making my learning experience become less stressful and even more fascinating!!

My gratitude extends to Dr Gwen Ineson for her treasured support which was really influential in my PhD journey. I wish to express my appreciation for her tremendous support, generous time, constructive feedback, and invaluable advice through this research.

I also would like to thank my therapist, Paul Took, for his wonderful care and treatment during my therapy sessions. He helped me face fear after fear, while tackling anxiety, and learning when to just "rip off the Band Aid" and do it.

Last but definitely not least, I am grateful to the participants of this study for taking the time from their busy schedules to sharing their learning and teaching experiences with me. They are the ones for whom this project speaks and they were the ones who made this project a reality.

Table of Contents

List of Figures

Abbreviations

ANOVA	Analysis of Variance
AV	Audio-Visual
CDE	Crisis Distance Education
CEFR	Common European Framework of Reference for Languages
CSE	Computer Self-Efficacy
DTC	Digital Technology in Classrooms
EFL	English as a Foreign Language
ELI	English Language Institute
ESOL	English for Speakers of Other Languages
FL	Foreign Language
GC	Global Competitiveness
GCC	Gulf Cooperation Council
HE	Higher Education
HEI	Higher Education Institutions
ICT	Information and Communication Technology
IT	Information Technology
KSA	Kingdom of Saudi Arabia
LMS	Learning Management System
MOE	Ministry of Education
MoEP	Ministry of Economic Planning
MoP	Ministry of Planning
MOOC	Massive Open Online Course
NELC	National E-learning Learning Centre
NPIT	National Plan for Information Technology
NTP	National Transformation Program
PISA	Program for International Student Assessment
PPT	PowerPoint Templates
PU	Perceived Usefulness
RQ	Research Questions
SD	Standard Deviation
SDL	Self-Directed Learning
SNDP	Saudi National Development plan
SRL	Self-Regulated Learning

TIMSS	Trends in International Mathematics and Science Study
TPCK	Technological Pedagogical Content Knowledge
UAE	United Arabs Emirates
UNESCO	United Nations Educational Scientific Cultural Organisation
VARK	Visual, Aural, Read/write and Kinaesthetic
VLE	Virtual Learning Environments

1   Introduction

1.1   Background

In the wake of the COVID-19 pandemic, the need for social distancing has led to the curtailment of face-to-face interaction in order to contain the spread of the virus amongst populations, thus affecting all spheres of human life including education (Teräs et al., 2020). As a result, the education institutions across global settings have had to react very quickly to prevent or minimise disruptions to academic life which has 'resulted in an unprecedented push to online learning' (Teräs et al., 2020, p.863).

Thus, in view of the health and safety concerns in the COVID era, e-learning has fast become perceived as a feasible alternative to face-to-face learning. Within the Saudi context, in recognition of this, the Ministry of Education (MOE) has undertaken a number of initiatives to help higher education institutions (HEIs) migrate to online learning in order to provide educational continuity to the learners. According to the United Nations Educational Scientific Cultural Organisation (UNESCO) report on the efforts of the MOE to combat coronavirus pandemic (2020), there are MOE-led efforts underway to implement distance learning in the government-funded and private sector of HEIs. To address emergent challenges, the MOE has facilitated learner access to Internet where unavailable, furnished cost free access to educational websites, extended training to teachers and learners to utilise virtual learning technologies and distance learning platforms and mitigated student anxiety over lack of contact with teachers by introducing virtual advising hours (UNESCO, 2020).

A key challenge in maximising the potential of online learning has been to ensure that it does not simply replicate face-to-face classroom learning. As the move to online learning had to materialise with no advance notice, despite the acceleration in 'new forms of pedagogy and tremendous initiatives from individual academics and institutions', much of the education delivered online has continued to replicate conventional campus-based learning (Burquel & Busch, 2020, para. 7-8). The shift to online learning is not just a shift to different modes. There is considerable scope for more 'personalised education' and innovative learner assessment under the new paradigm of learning (Burquel & Busch, 2020, para. 7-8).

This has been pinpointed in earlier studies. For instance, in an experimental study carried out with 59 undergraduate learners to ascertain differences in learners' behavioural engagement in traditional versus e-learning courses, Li et al. (2014) found that students in the e-learning course were more likely to demonstrate higher order thinking. When interviewed, the e-learning participants revealed that when they had to learn online and had less access to the teacher, they

had more confidence in themselves and were more likely to learn by 'trial and error' (Li et al., 2014, p.51). At a point when e-learning has assumed greater importance in the COVID era, what these findings suggest is the potential of e-learning to catalyse more active learning, risk-taking and self-efficacy on the part of the learners, if it is delivered in pedagogically appropriate ways.

In recent years, rapidly advancing technological developments have had a transformative impact on English as a Foreign Language (EFL) education (Jung, 2016). The rise of Information and Communication Technology (ICT) and the internet has produced a wide range of new opportunities for learning, diversifying educational strategies in areas where information access was previously limited by cost and infrastructure (Allam & Elyas, 2016). In countries of the Global South, the increasing availability of cheap mobile technology and internet accessibility have produced a wide range of e-learning opportunities, including instantaneous access to information, interactive experiences in Virtual Learning Environments (VLEs), and mobile learning applications that support context-driven learning (Soliman, 2014).

The use of digital technologies has attracted a significant amount of attention in recent years, in part because there is considerable pressure on teachers to integrate new technologies into the classroom, and a popular assumption that current technologies have transformative potential for language learning (Allam & Elyas,2016). A significant amount of attention within the academic literature, therefore, has been focused on the variety of different types of tools, applications, and interactive aids that may be used in language learning. For instance, a study by Golonka et al. (2014) which reviewed over 350 studies on the deployment of technology in foreign language (FL) teaching and learning showed that there is a limited efficacy although there are a lot of studies available on the topic of the use of technology in FL classrooms. However, the most measurable impact of these technologies in FL was in pronunciation training and the use of chat as it helps learners to produce more complex sentences.

On the other hand, the potential of the internet to 'equalise' populations throughout the world by providing information access has perhaps been somewhat overstated. Arguably, a new form of division has occurred now between those who have access to high-speed internet and those who do not (Vigdor et al.,2014). It is essential to have a device that can access the internet and the means to find mobile internet access, which is not always possible in some parts of the world (West, 2013). However, it should also be noted that the barrier to entry has considerably dropped in recent years. Mobile technology means that people with few means can purchase a phone with internet access for very little money in most parts of the world and can access the internet through a 3G service (West, 2013). Although broadband infrastructure is still lacking in many parts of the world, most areas do now have some form of internet connectivity. It is, however, important not

to overstate the equalising power of the internet, but similarly, access to information for people around the world has reached an unprecedented level, and this has had important implications for language learning.

With the rise of the internet, students are able to access many sources for information and can utilise tools and programs that provide diverse ways of learning. This, to a large extent, means that students can take charge of their own learning processes, choosing which applications and resources they find useful and crafting their own learning environments and schedules (Golonka et al., 2014). It also means that they are encouraged to use critical skills and judgement, when evaluating tools and software to develop their own learning strategies (Keppell, 2014). In the case of EFL education specifically, communication technologies have proven to be an invaluable resource by allowing students access to regular, authentic situations in which they can practice their language skills (Golonka et al., 2014). A number of studies have examined the impact of such communication technologies on EFL education and have found that when students are encouraged to produce the language in real-life situations, this leads to better learning outcomes (Golonka et al., 2014). With the effective use of such digital technologies being a central concern in the implementation context, this thesis offers the prospect of useful insights into how e-learning technologies are deployed for EFL learning in the Saudi context.

This research explores how digital technologies have been introduced and used in a Saudi EFL Higher Education classroom to establish whether ICT tools have been accompanied by a paradigm shift to learner-centred methods of pedagogy. In this chapter, I provide background to the research topic, introduce the underpinning theory of heutagogy, the research questions and the rationale. Moreover, I aim to explore the implications of digital technologies for pedagogy in relation to teaching and learning EFL. This term will be used for the Arab learners participating in this study who are learners of EFL in a non-English speaking context, the Kingdom of Saudi Arabia (KSA).

First, I present the cultural context of learning and teaching at the tertiary level of Saudi EFL settings. Next, I consider the literature relating to e-learning and digital technologies, with a particular emphasis on research that has examined and theorised the implications of digital technologies in EFL education. I introduce the term of e-EFL as in e-learning in EFL with a discussion of the learning paradigms for e-learning in the e-EFL classroom. Next, I explain the differences in the key terms of the study by distinguishing between i) student-centred and learner-centred and ii) self-directed learning and self-determined learning with a view to clarifying why one has been used rather than the other in relation to the theoretical framework for the study. Lastly, I discuss the principles of heutagogy and the construct of self-efficacy in regard to self-

directed and self-determined learning which together with e-learning helps to advance e-EFL learning and e-EFL learner development.

1.1.1 Problem Statement

The main problem addressed by the current study is understanding how technology can be deployed for instruction and student learning as a move towards learner-centred pedagogy, as well as the use of e-learning tools as a way of revitalising the KSA education system. Despite recent educational reforms, the limitations of the Saudi system of education make it ill-adapted to fulfil the needs of the international job market, leaving Saudi graduates under-equipped to compete with peers from North America and Western Europe for skilled positions in technology and industry (Smith & Abouammoh, 2013). It is also observed that 'the educational system in KSA 'is stagnating, producing graduates who do not meet international standards of excellence' (Karasik, 2015, para.5). Research also suggests that 'Saudi Arabia students have historically not been taught or encouraged to be self-directed learners' (Alaifi, 2016, p.9). Based on the results of the Self-directed Learning Readiness Scale (SDLRS) from a survey of 179 Saudi university learners, Alaifi (2016, p.9) found that the respondents 'had an average level of SDLRS'. Hence, as part of the national agenda to prepare a workforce for the knowledge economy (Elyas & Picard, 2013), KSA has focused on developing Saudi learners' capacity for self-regulated and self-directed learning. The MOE report titled Leading Efforts to Combat Coronavirus Pandemic (2020) provided coverage of the KSA government's detailed response to ensuring educational continuity via a switchover to online modes of learning. The report listed readiness for distance learning as a key challenge for the stakeholders in this process. Research shows that the need for SDL in the KSA context has increased due to the imperatives of implementing Crisis Distance Education (CDE) in the pandemic era (Alghamdi, 2021). This study aims to argue that the deployment of technology and e-learning tools is a useful strategy for improving the education system in KSA, leading to attainment of the international standards of excellence and market demands.

Further, following globalisation and macro-level economic transformation, English language skills are now considered to be necessary for Saudi graduates. Crystal (2012) notes that as the global lingua franca, English offers not only access to high status, highly paid jobs but also opportunities for enabling developing countries engage more productively with their neighbours in the Global North. English has emerged as the dominant language of commerce, trade, and industry, and is, therefore, an essential skill for Saudi graduates hoping to drive forward the country's economic development (Smith & Abouammoh, 2013). Hence, with English being the global lingua franca

and the language of communication within the international economy, KSA has committed to strengthening Saudi learners' EFL proficiency (Alghamdi & Holland, 2020). There is now a strong perception that these allied objectives can be achieved with the help of e-learning technologies (Alghamdi & Holland, 2020).

However, while educational reforms in KSA demonstrate an increasing commitment to bringing about self-directed EFL learning with the help of technology, it is not known if and to what degree these reforms have been accompanied by a shift to learner-centred EFL pedagogy necessary for the success of such reforms. Within the KSA educational settings, there tends to be a prevalence of traditional methods and teaching paradigms (Al-Seghayer, 2014) and a transmissive approach to learning (Tayan, 2017). Teaching paradigms refer to the different stages of a lesson, or sequences to teaching. However, paradigms in a teaching context cannot be easily quantified or defined, as these are based on the individual learning needs of each student, based on their intellectual, physical, and emotional abilities, as well as the opportunities presented to that student by their own education system (Al-Seghayer, 2014). As the learning opportunities can differ for a student based in KSA and a student based in a different country, thus, paradigm is a complex concept to simplify. However, for this context, this study will focus on simplifying teaching paradigms as using digital tools and technology as a way of improving the learning opportunities for the students.

Unless digital tools are used effectively with clear strategies in the Saudi EFL classroom, the availability of these digital technologies does not necessarily translate into improved academic achievements. Hence, the issue of the necessary shifts in EFL pedagogy for effective technology-integrated EFL learning is an urgent one as it affects Saudi EFL teachers and learners alike. Unless the EFL pedagogy in the Saudi classrooms shifts from a traditional teacher-fronted pedagogy to a learner-centred one, irrespective of how much the KSA government invests in e-learning infrastructure and technologies, the Saudi EFL learners are unlikely to become self-directed learners with a capacity to initiate and extend their own learning. In the long run, of course, the issue also has significant ramifications for whether or not KSA's vision for socio-economic growth is translated into reality (Vision 2030, 2016).

Unlike existing research on EFL and e-learning in KSA, the present study looks at the degree to which the implementation of EFL and e-learning reforms in KSA educational settings has been accompanied by urgently needed shifts to learner-centred pedagogy. As a university educator, I have observed close hand how top-down educational reforms tend to stagnate at the institutional level simply because the reformers have not factored in how key stakeholders like teachers and

learners may interpret and apply these. I observed even the most innovative e-learning tools being used in an entirely conventional manner and for record keeping and utilitarian purposes rather than, as intended, for transformative teaching and learning aimed at developing efficacious self-directed learners. This provides impetus to my interest in exploring this urgent issue through the current study.

1.1.2   E-learning

1.1.2.1   E-learning and Digital Technologies Within E-EFL Education.

Rekkedal et al. (2003, p.9) defined e-learning as 'interactive learning in which the learning content is available online and provides automatic feedback to the students' learning activities'. Hoppe et al. (2003, p.255) add that e-learning comprises learning which is 'supported by digital electronic tools and media', whereas m-learning refers to 'e-learning using mobile devices and wireless transmission'. E-learning also implies that the process of learning is de-materialised, meaning that it takes place in a virtual environment rather than a physical one (Bates, 2005). On the other hand, d-learning 'concerns the use of information and communication technology (ICT) in the open and distance learning' (Basak et al., 2018, p.194).

In addition to comprising 'the technical solution to support teaching, learning as well as for the studying activities' (Suhonen, 2005 as cited in Basak et al., 2018, p.194), it can also be considered 'an educational software, a digital learning tool, an online study program or a learning resources' (Anohina, 2005 as cited in Basak et al., 2018, p.194). Basak et al. (2018, p.194) clarify that 'm-learning is the subset of e-learning and d-learning is the combination of e-learning and m-learning'. The term 'e-learning' has been so widely adopted in the literature that it has simply become synonymous with the use of ICT technologies and the internet in an educational context . Hence this thesis is not specifically about m-learning, the term e-learning as defined by Anohina (as cited in Basak et al., 2018) will be used for the familiarity of the term in order to avoid confusion. Over the course of recent decades, there has been a significant amount of interest in the way in which technological development may impact upon teaching and learning processes. To a certain degree, the conceptual definition of educational technology is extremely broad, as summarised by the Members of the Definition and Terminology Committee of the Association for Educational Communications and Technology and reported by Januszewski and Molenda (2008, p.1): 'Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources.' Digital technologies such as mobiles, smartphones and the internet are the

infrastructure supporting e-learning. The research specifically addresses all e-learning as well as the specific e-learning achieved online in the classroom/mobile e-learning using smartphones anywhere.

The proliferation of e-learning technologies, particularly within e-EFL education, has attracted the attention of researchers in recent years, which has largely been focused on the transformative potential of e-learning strategies inside and outside of the classroom (Allam & Elyas, 2016). In particular, academic research has concentrated on the implications of this broader social and cultural shift in classroom pedagogy, pointing to the ways in which digital technologies offer opportunities for greater learner autonomy and so may improve or facilitate learner-centred pedagogy (Soliman, 2014). These technologies can enhance learner autonomy by making second language (L2) environments more accessible (Hamilton, 2013) and mediating realistic and social learning opportunities characterised by unpredictability thought to stimulate learner independence along with necessary support (Little & Thorne, 2017). Further, it serves as a meaning-making resource which learners can use to self-direct and self-regulate their learning and education (Pellerin, 2017).

However, there are also reservations over the value of digital technologies in education. The rapidly changing nature of technological development is such that the mid-to-long term implications for pedagogy of the introduction of these digital technologies into the classroom have not yet been fully understood. Research in the wider context has shown that 'the most commonly cited reason for lack of technology implementation in the classroom is inadequate professional development and training' (Ertmer et al., 2012 as cited in Johnson et al., 2016, Section: Training, para. 2). In particular, research has also shown that teacher training for e-learning had greater impact on teachers' administrative or non-instructional task and limited impact on assessing learners' progress, lesson designing and incorporating technology into instruction which comprise important instructional tasks (NEA-AFT, 2008).

This rapid development has prompted some scholars to adopt a critical approach to the introduction of e-learning strategies in the e-EFL classroom, suggesting that without parallel reforms to pedagogy, digital technologies may limit the effectiveness of e-EFL education and thereby stymie learner-centred approaches (Laurillard, 2012). For instance, Laurillard (2012) argues that educationists must not assume that learners are well-equipped to learn with the new technologies without help from the teachers. She asserts that the new technologies in fact create 'an even more critical role for the teacher, who is not simply mediating the knowledge already articulated' but also 'scaffolding the way students think and how they develop the new kinds of skills they will need for the digital literacies' (Laurillard, 2012, p.4). While digital technologies are

viewed as being useful for helping learners to learn more effectively, the tools may hinder their learning as learners are expected to demonstrate significant digital, informational and media literacy and self-regulation in using them (Lai, 2019).

One of the major critiques directed towards the transformative potential of digital technologies in the e-EFL classroom in recent years is that it has created an uncritical policy environment: the use of technology in the classroom is regarded as a 'good' in and of itself (Laurillard, 2012, p.4). This has distorted our understanding of the role of digital technologies in education and has led to a rapid proliferation of technologies and e-learning strategies without sufficient attention to issues such as teacher education and pedagogical reform (Laurillard, 2012).

1.1.2.2   E-learning and Digital Technologies in the Saudi E-EFL Context.

Within KSA, e-learning is believed to have considerable potential as access to technology is relatively widespread, particularly mobile internet, and the population is highly technologically literate (Kruss et al., 2015). The wider population (particularly the urban youth) is receptive to the introduction and use of new technologies (Nassuora, 2012). Further, the use of digital technologies has been the pivot for reforms envisioned in the KSA education policy in recent years (Khan, 2011; Tayan, 2017).

In 2007, the government launched a series of reforms under the Tatweer initiative to promote the use of innovative technology in the classroom, particularly at higher education level, as part of an overall strategy to cultivate a workforce prepared for work in an increasingly diversified economy (Alnahdi, 2014). This was also widely regarded as a move aimed at modernising and 'Westernising' the Saudi educational system, which had hitherto remained bound to traditional structures and approaches (Prokop, 2003). Since then, the government has also committed to making a huge investment in ICT tools and equipment, with the aim of increasing e-learning opportunities both inside and outside the classroom (Khan, 2011).

At the same time, the need for educational reforms led to the development of the Saudi government's ambitious 2030 Vision, which called for key changes to teaching paradigms and approaches in local educational settings (Vision 2030, 2016). At the heart of these educational reforms is the drive to reform pedagogy in the Saudi classroom, particularly by introducing learner-centred teaching approaches to replace traditional hierarchical and prescriptive approaches characteristic of the Saudi educational system (Elyas & Picard, 2010). The reform initiative was designed to transform pedagogy in such a way that Saudi students would be able to adopt a more active role in their own learning, particularly in the context of e-EFL.

However, despite the focus on the adoption of e-learning technologies in the Saudi educational settings and pedagogical reforms towards learner-centred learning, there is no identifiable evidence to suggest that policymakers and reformers have considered the two dimensions together. Such oversight is of particular concern given that e-learning technologies are only believed to be effective when integrated alongside pedagogical reform (Laurillard, 2012). Otherwise, the glut of funding tends to be allocated to the use and adoption of e-learning technology within the classroom, but little thought addresses how it should be aligned with pedagogical approaches (Laurillard, 2002).

1.1.3 Student-based Learning Models

1.1.3.1 Student-centred Versus Learner-centred.

In her book *Learner-centred Teaching*, Weimer (2002, p.xvi), distinguishes between the terms student-centred and learner-centred in the following way. Weimer notes that the term 'student-centred implies a focus on student needs' arising from a 'student-as-customer metaphor'. This notion is based on the idea of 'education as a product' whereby the teachers must serve and satisfy the 'customer'. On the other hand, the notion of learner-centred directs attention to learning, more specifically on 'what the student is learning, how the student is learning, the conditions under which the student is learning, whether the student is retaining and applying the learning, and how current learning positions the student for future learning' (Weimer, 2002, p.xvi).

Weimer (2002) adds that within learner-centred instruction, the action is not on what the teachers are doing but on what the learners are doing. Weimer (2002, p.xvi) concludes that such a 'learner-centred orientation accepts, cultivates, and builds on the ultimate responsibility students have for learning' and then 'it is up to the students to perform'. With the focus in Saudi higher education being on transforming the learning paradigm into active learning one through e-learning, it follows that the term learner-centred should be used as it is well-aligned with the objectives of the study and the heutagogical framework.

1.1.3.2 Self-directed Learning Versus Self-determined Learning.

Self-directed learning is defined as a process in which 'individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes' (Knowles, 1975, p.18). In this approach, teachers not only 'establish objectives and curriculum based on learner input' but also support

them along their learning pathways. However, the learners are responsible for their learning (Blaschke, 2012, p.58).

In self-determined (or heutagogical) learning, which is the adopted framework in this thesis, the teacher also 'facilitates the learning process by providing guidance and resources' (Blaschke, 2012, p.59). However, the 'ownership of the learning path and process' are fully given over to the learners who not only negotiate their learning but also decide what and how to learn (Blaschke, 2012, p.59). Further, in self-determined learning, it is considered important for learners to acquire both competency (demonstrated ability to acquire knowledge and skills) and capability (learners' confidence in their competency and ability to deal with new problems and unpredictability) (Blaschke, 2012, p.59).

Through the integration of double-loop learning in self-determined learning, the learners are better able to reflect on 'the problem and the resulting action and outcomes' and on 'the problem-solving process and how it influences the learner's own beliefs and actions' (Blaschke, 2012, p.59). According to Argyris and Schön (1974, p.2-3) who originated the concept of double loop learning, 'single-loop learning is like a thermostat that learns when it is too hot or too cold and turns the heat on or off [but] *double-loop* learning occurs when error is detected and corrected in ways [involving] the modification of …underlying norms, policies and objectives'. While within single loop learning, the focus is on 'techniques and making techniques more efficient', in double-loop learning, the emphasis is on 'questioning the role of the framing and learning systems which underlie actual goals and strategies' (Usher & Bryant, 1989, p.87). Double loop learning entails deeper and more significant change that goes beyond the individual to encompass the system and organisation. In addition, as Eberle (2009, p.183), double-loop learning makes it possible for the learners to apply learning gained from earlier problems to other problems and challenges. Beyond single and double loop learning, it has also been theorised that learners can take advantage of triple-loop learning. Triple-loop learning involve 'learning about learning' or 'learning to learn' and learning lessons from experience [entailing] the agent's metacognition as he reflects on himself and asks, what do I learn about myself as a learner' (Hase, 2014, 2016 as cited in Glassner & Back, 2020, p.65).

Therefore, with its allied attention to competency and capability, self-determined learning enables teachers to more effectively meet the needs of 'adult learners in complex and changing work environments' (Blaschke, 2012, p.60). Adult learning - or andragogy - has been defined as 'the art and science of helping adults learn' by Knowles (1970, p.38) who differentiates it from pedagogy, which pertains to the learning undertaken by children. However, realising that andragogy was also useful for enabling younger learners to learn effectively, Knowles (1980,

p.43) later updated his definition of andragogy so that the term represented 'simply another model of assumptions about learners to be used alongside the pedagogical model assumptions'. Knowles (1980, p.43) further argued that it was better and more useful to view the two models as 'two ends of the spectrum' rather than as dichotomous representations. According to Blaschke (2012), andragogy (self-directed learning) is distinguishable from heutagogy (self-determined learning) on a number of counts. In contrast to andragogy, heutagogy lays emphasis on double and single loop learning and development of capabilities. It also encompasses nonlinear learner-directed learning which helps learners to comprehend their processes of learning (Blaschke, 2012 as cited in Glassner & Back, 2020).

The pedagogical continuum, then, progresses from pedagogy (faculty-centred education), andragogy (adult-centred education) towards heutagogy (self-directed and transformative education) (Halupa, 2015). Given that e-EFL learners in higher education are expected to 'self-direct their processes of language development' (Egel, 2009, p.2026), a heutagogical approach to pedagogy fits well in terms of the e-learning curricular goals of EFL learners at Saudi universities, especially as heutagogy is viewed as a 'net-centric' theory that takes advantage of the key affordances of the internet' (Blaschke, 2012, p.57). According to Blaschke (2012, p.56), a heutagogical approach to instruction and learning emphasises learner autonomy and self-determination and focuses on the 'development of learner capacity and capability with the goal of producing learners who are well-prepared for the complexities of today's workplace.' Table 1 captures the key differences between self-directed learning and self-determined learning.

Table 1

Heutagogy as a Continuum of Andragogy Difference Between Self-directed Learning & Self-determined Learning (Blaschke, 2012, p.61)

Andragogy (Self-directed)	→	Heutagogy (Self-determined)
Single-loop learning	→	Double-loop learning
Competency development	→	Capability development
Linear design and learning approach	→	Non-linear design and learning approach
Instructor-learner directed	→	Learner-directed
Getting students to learn (content)	→	Getting students to understand how they learn (process)

1.1.3.3 Learner-centeredness and Self-directed Learning in KSA E-EFL.

The wider move towards integrating e-learning into learners' educational experiences at universities (Ellis et al., 2009, p.303) appears to be supportive of the goal to 'shift focus of language instruction from teacher-centred to the learner-centred [learning that expects learners to] self-direct their processes of language development' (Egel, 2009, p.2026). As e-learning technologies have been hailed as an important step forward in facilitating learner-centred pedagogies allowing learners to take ownership of their learning, it is important to understand which pedagogical approaches best fit for an e-learning model in the Saudi e-EFL classroom.

1.1.4 Heutagogy

1.1.4.1 Heutagogical Learning.

Heutagogy is 'founded on the key principles of learner agency, self-efficacy, capability, and metacognition (knowing how to learn) and reflection' (Blaschke, 2018, p.129). What self-efficacy signifies in this context is, therefore, discussed before moving on to consider the heutagical framework of self-determined learning, offered by Hase and Kenyon (2013), which has been adopted for the current study. The key elements of the Hase and Kenyon framework have been summarised by Blaschke (2019, p.76) as in Figure 1.

Figure 1

Principles of Heutagogical Learning (Blaschke, 2019)
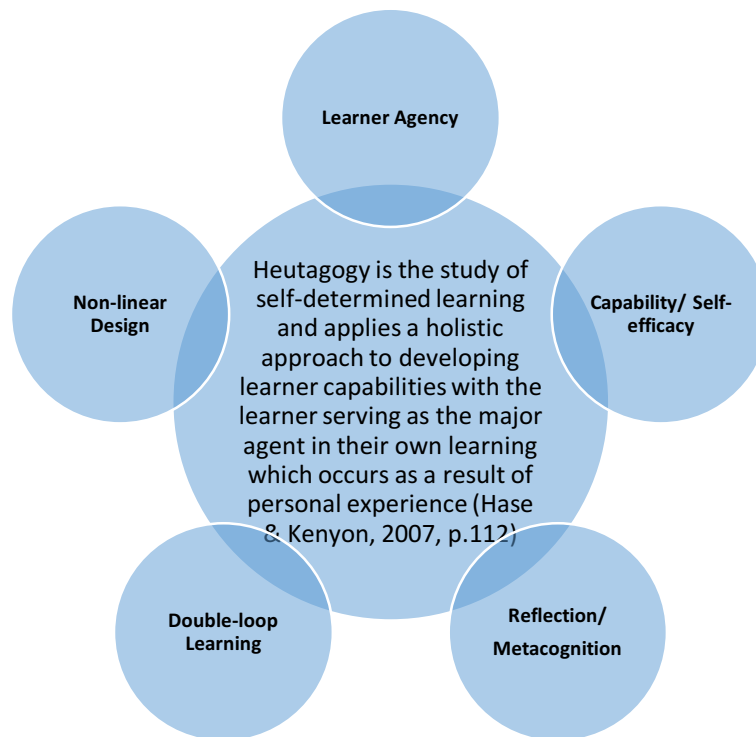
According to the framework presented in Figure 1, the agentive learners are at the heart of all heutagogical practice. They are not only 'self-motivated and autonomous' but also 'primarily responsible for deciding what will be learned and how it will be learned and assessed' (Blaschke, 2019, p.28). On the other hand, capability involves learners being able to make use of their competences in known and unknown contexts, in addition to 'learner self-efficacy, communication, creativity, collaboration (teamwork), and positive values' (Blaschke, 2019, p.28). In the heutagogical framework, reflection also plays a central role, with learners being expected to demonstrate an understanding not just of what they have learnt but also the way in which they undertaken their learning and how they have learnt it (or metacognition) (Blaschke, 2019). The next principle in the framework is that of double-loop learning which requires that learners are able to reflect not only on what has been learnt and how it is learnt but also on how their chosen pathway to learning influences what they believe and hold as their values. Last but not least, according to this framework, as it is the learner rather than the teacher who determines the pathway to learning, learning transpires in a non-linear fashion rather than in a sequential or linear manner (Blaschke, 2019).

1.1.4.2   Heutagogy, Self-efficacy and Learning.

Bandura (1994, p.2) defines perceived self-efficacy as being linked to 'people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives'. Bandura (1994, p.2) adds that beliefs in self-efficacy shape 'how people feel, think, motivate themselves, and behave' in their lives, impacting on the choices they make, their functioning and control over life events, their ability to show resilience in the face of adversity, and their vulnerability to stress. Primarily, individuals' perceived self-efficacy is influenced by experience of success in tasks, access to social models like themselves who have achieved success, boosts in perceived self-efficacy offered by others through social persuasion, and effect of emotional and physical states on interpretation of perceived self-efficacy (Bandura, 1994). Self-efficacy is a major principle of heutagogy (Blaschke, 2018), so that adoption of this approach to learning may prove instrumental to enhancing self-determined learning by students within the tertiary Saudi e-EFL context, where e-learning technologies have been widely introduced. Factors such as goal commitment, social connection, emotion, culture, resource and metacognition can regulate learners' self-efficacious use of e-learning tools and move towards heutagogical learning (see section 2.7 for detailed discussion). Therefore, this study also probed the extent to which the participating learners' learning experiences were mediated by these regulations

1.1.4.3   Heutagogy and Self-determined Learning.

Self-determined learning is a key element of Hase and Kenyon's (2013) heutagogical approach (see Figure 1). Hase and Kenyon (2013, p.10), note that within heutagogy, there is a shift in the educational process from being a teacher-centred act of knowledge transfer to learners to a process wherein learners select not only what needs to be learnt, but also how they might go about learning it with the 'learned' person (teacher) serving as guide or facilitator to the learners. Hase and Kenyon (2013, p.10) add that a key advantage of the heutagogical approach is that 'learners develop learning capability, they learn how to learn' by gaining insight into the process of learning and becoming more skilled at self-determined learning. Learners thus become 'increasingly skilled in research methods, in undertaking relevant practical work and in seeking information from people around the world [and] proficient in planning their learning' (Hase and Kenyon, p.10). The increase in capacity creates the kind of 'emotional commitment [motivation and desire] to learning' that makes heutagogy effective (Hase & Kenyon, 2013, p.10). This study aims to examine whether and how digital technologies and opportunities for e-learning have helped Saudi e-EFL learners undertake self-determined learning in tertiary settings.

1.2   Purpose Statement

The purpose of this investigation is to examine which digital technologies have been introduced in a Saudi e-EFL higher education classroom, the ways in which they are being used, in addition to exploring the extent to which their use has facilitated a paradigm shift to learner-centred methods of pedagogy. To accomplish this, the current study surveyed both university level Saudi EFL teachers and learners in order to learn about their perceptions and experiences of using e-learning tools to develop EFL proficiency.

The teacher and student questionnaires were adapted from earlier studies (Andrew et al., 2018; Çelik et al., 2012; Mahdum et al., 2019) to investigate the perspectives of both teachers and students in an e-EFL higher education classroom, thus generating quantitative data on the use of technology and the participants' e-learning use and experiences. This investigation also explored the extent to which integration of digital technologies in the Saudi e-EFL classroom has facilitated learner-centred pedagogies.

At this point in time, when educational reforms are in full swing and there is major investment in e-learning technologies by the KSA government, the present study offers vital insights by focusing on factors which influence successful e-learning integration and utilisation by teachers and learners at Saudi universities. As section1.4 shows, the existing literature has not focused on the need to redefine pedagogy in response to increasing integration of digital technologies in the e-EFL classrooms in KSA universities. There seems to be no focus on e-learning and pedagogical reforms. In view of the efforts of the government to promote a move towards the use of digital technologies for learning and learner-centred approaches to teaching and the dearth of research on these two dimensions, the present study makes an important contribution to existing research. It provides insights into e-EFL teacher and learners perceptions and roles in relation to the learning and teaching process integrated with e-learning technologies. These insights are vital for directing the attention of the policymakers and research community to look at how e-learning technologies are perceived and used by the teachers and learners at university. Developing empirical insights into this issue would enable researchers and policymakers to focus not just on e-learning technologies but also on the pedagogical context of technology-integration in the EFL classrooms and the roles played by teachers and learners in using e-learning for their teaching and learning respectively.

1.3   Research Questions

To frame and guide the investigation, the following research questions (RQs) were formulated:

RQ1: What digital technologies and e-learning strategies been incorporated into the tertiary e-EFL classroom in Saudi Arabia?

RQ2: In what ways have digital technologies and e-learning strategies been integrated in the tertiary Saudi e-EFL classroom?

RQ3: Based on the teachers' perceived usefulness of ICT, ease of use, educational benefit, impact on teaching, self-efficacy and training attended, how do the participating teachers use e-EFL to move their learners towards heutagogical learning?

RQ4: How are students using e-EFL to develop as heutagogical learners in relation to goal commitment, affective, social connection, resource, metacognitive and culture regulations of their learning experiences?

RQ1 is designed to learn about the e-learning technologies and strategies integrated in the research setting. It is important to know this in order to develop a better picture of the tools at the disposal of the participating teachers and learners as well as the strategic use of these tools by the latter. RQ2 allows a firmer understanding of how these e-learning tools and strategies are deployed in the research setting - which is vital for mapping the convergence and divergence between envisioned utility of the tools and strategies and actual utilisation of the latter in the implementation context. RQ3 is formulated to learn about the participating teachers' pedagogical approach vis-a-vis the use of e-learning tools available to them. It also allows the mapping of their technology use with factors such as the teachers' ease and efficacy in using e-learning tools and trainings undertaken amongst other variables. RQ4 is designed to learn about the participating learners' use of e-learning tools and how their learning is regulated by factors such as goal commitment, emotion, social interactions, resources, metacognition and culture.

1.4   Rationale for the Study

A survey of recent research on e-learning and digital technologies within the Saudi e-EFL context shows that there is considerable research focus on teachers' utilisation and perceptions of digital technologies in different contexts such as university (Hakin, 2021), language centre (Farooq & Soomor, 2018), or school settings (Alghamdi, 2018), teacher education (Albaqami, 2019), teacher attitudes (for instance, Ja'ashan, 2020; Mathew et al., 2019; Mutambik, 2018). Some researchers have focused on Arab EFL learner use of digital media technologies for language learning beyond

the classroom (Al-Jarf, 2021) or student attitudes towards e-learning technologies in the English class as well as the impact of their gender or specialties on their perception of e-learning (Alhumsi et al., 2021; Mahyoob, 2020). Other studies have explored the utility of digital technologies in the Saudi EFL classroom (Al-Shehri, 2020; Alqarni et al., 2020; Alshabeb & Almaqrn, 2018) and whether e-learning in the university setting through platforms such as the Blackboard can help with language learning in the wider setting (Almekhlafy, 2020) or whether YouTube can be used to help students to improve their pronunciation skills when learning a second language (Zitouni et al., 2021).

However, the surveyed literature has not turned its attention to the redefining of pedagogy in response to increasing integration of digital technologies in the e-EFL classrooms in KSA universities. There seems to be no focus on e-learning and pedagogical reforms. In view of the government initiatives towards digital technologies for learning and learner-centred approaches to teaching and the lack of research on these two dimensions, the current study addresses an important gap in literature since there is a tendency to redefine teacher and learner roles in relation to the learning and teaching process. The digital shift creates a new form of learning relations, where the teacher is considered the coach and collaborator as opposed to the conventional view of teachers being the knowledge dispensers.

Therefore, this study is unique in the e-EFL higher education context in Saudi which considers both the dimension of e-EFL and heutagogical learning. Given the pivotal importance of this issue as elaborated on in the previous section, this study will address this gap by exploring the application of digital technologies in e-EFL classrooms in Saudi Arabia, with a particular focus on whether their use has assisted in promoting learner-centred pedagogy. As previously discussed, learning paradigms play an important role in shaping the learning experiences of students and their capacity to undertake self-determined learning while accessing ICT technologies available to them.

1.5   Significance of the Study

The present study is important to the education sector in two ways. First, by inquiring into how technology could be deployed for instruction and student learning, the study can provide empirical insights into the extent to which there has been a move towards learner-centred pedagogy on the part of the teachers. Second, the study can offer insights into how learners made use of e-learning tools and the degree to which this reflected self-efficacious and heutagogical learning. These are important insights that can provide an empirical basis for policymakers and researchers to turn

their attention to the current issues in the Saudi education system, as well as offer the potential to derail important educational reforms aligned with a national agenda for the revitalisation of the KSA economy and the development of its workforce that meets the international standards.

Prior research on the integration of e-learning into the Saudi e-EFL setting has run the gamut of studies on teacher attitudes (Ja'ashan, 2020; Mathew et al., 2019; Mutambik, 2018), learner attitudes (Alhumsi et al., 2021; Layali & Al-Shlowiy, 2020; Mahyoob, 2020) to research on utility of ICT in Saudi EFL classroom (Al-Mubireek, 2020; Alfallaj & Alfallaj, 2020; Ezza & Almudibry, 2018; Hakin, 2021). However, existing literature has not paid due attention to the question of redefining pedagogy in parallel to increasing integration of ICTs in the e-EFL classrooms within KSA universities.

In terms of serving as an academic contribution to the field of study, the present study moves EFL pedagogy into the spotlight as a research issue when weighing the effectiveness of e-learning integration into EFL learning and the preparation of active self-directed learners in the Saudi context. Effectiveness is a complex concept to measure on its own. For instance, effectiveness can be loosely defined as an accomplishment of an objective or achieving satisfactory results (Jensen et al., 2019). While for one learner merely passing a test is a measure of effectiveness, for another it is a matter of obtaining fluency in a new language. Effectiveness is an individual context that largely depends on the circumstances of each learner, teacher, and the education system as a whole (Jensen et al., 2019). This study will attempt to measure the effectiveness by highlighting i) the need to re-evaluate the pedagogical training needs of e-EFL teachers in response to the growing integration of ICTs in Saudi universities and ii) the need to shape the experiences of the e-EFL learners based on teachers' views of e-learning and their own roles in facilitating learner-centred pedagogies. This study opens up avenues for future research that may reassess EFL pedagogy as a significant variable in the successful integration of e-learning in the KSA pedagogical contexts. At a practical level, it furnishes policy makers, universities and training providers with an empirical basis for respectively recalibrating policies, measures and training to address clearly-identified issues of perception, awareness and knowledge hindering the development of self-directed e-EFL at KSA universities.

Addressing the problem will be of immediate benefit to the KSA educational community as it will allow decision-makers, policy-makers and educational providers to integrate pedagogical transformations into the equation of educational reforms and practices. When teachers and learners are trained to make use of e-learning tools for heutagogy rather than purely utilitarian purposes, there is greater chance of Saudi students transforming into self-directed and

autonomous learners. Further, such training would also capacitate Saudi educators to move towards using e-learning tools for delivering learner-centred education and learning. At a broader level, addressing this problem will also contribute to making possible the fulfilment of KSA's vision to prepare a self-directed workforce for effective participation in national socio-economic development and in the global knowledge economy.

1.6   Methodology

To reprise, this investigation inquired into the extent to which the integration of digital technologies in the Saudi e-EFL classroom has facilitated learner-centred pedagogies.

The purpose of this investigation is to examine the way in which digital technologies have been introduced and used in a Saudi e-EFL classroom, to explore the extent to which their use has facilitated a paradigm shift to learner-centred methods of pedagogy. To address the research questions outlined above, a survey methodology (with close ended and open ended questions) was selected, providing the opportunity to explore these issues holistically and in depth, within a real-world setting.

A numerical approach to collecting data on these experiences was adopted with a view to generating more generalisable findings. The applicability of qualitative approaches tends to be limited due to the characteristically small sample size. Therefore, a survey approach was viewed as yielding insights which could be extrapolated to wider contexts, if needed. It was anticipated that the Saudi university e-EFL students, whose demographic composition reflected common educational, cultural, and religious backgrounds (a homogeneity) would be affected in the same way by the integration of e-learning in their educational environment. A survey approach allowed for the examination of this unified and external reality of teacher and learner experiences and perceptions of e-learning tools with the use of a scientific methodology.

The research context is the English Language Institute (ELI) at Jeddah University in Jeddah, Saudi Arabia (ELI, 2020). In recent years, the ELI has received considerable funding and investment, in part due to the perceived need to improve EFL learning across the country. In particular, the ELI has as part of its core values a commitment to learner-centred learning, and the widespread provision of technology within the classroom. The university is committed to the use of new technologies to provide more interactive methods of teaching and learning (ELI, 2020). These initiatives are in line with the broader government strategies discussed above and reflect the current government policy advocating digital technologies and pedagogical reform. The context is, therefore, suited to study how digital technologies are being used and the pedagogical

approaches supported by such technologies. This study adopted a survey methodology approach to explore the perspectives of both teachers and students from the ELI, collecting quantitative data on the use of technology and student learning experiences.

A quantitative questionnaire was distributed to all students at the ELI to collect data on different aspects of e-learning integration, including the existing state of such technology integration in the research setting, types of e-learning, participants' perceptions and motivation toward using digital technologies, the obstacles, strategies adopted, the contributions of e-learning on teaching and learning in the university e-EFL setting and the impact on learner-centred learning. This data, thus, provided a representative picture of the ELI student body as a whole. To test the research instruments, a pilot study was conducted, as recommended by Creswell (2012), during a preliminary fieldwork trip to Saudi Arabia.

1.7   Summary

The Saudi government's 2030 Vision (2016) aims to encourage learner-centred teaching approaches and the implementation of digital technologies for e-learning. However, within the literature, there seems to be no focus on e-learning and pedagogical reforms for self-directed learning in Arab e-EFL university settings. This study, therefore, investigates the way in which digital technologies have been introduced and used in a Saudi e-EFL classroom and to explore the extent to which their use has facilitated a paradigm shift to learner-centred methods of pedagogy. A survey methodology was used to explore the ELI at Jeddah University in Jeddah, Saudi Arabia, where funding has supported digital technology implementation. Hase and Kenyon's (2013) heutagogical framework underpinned the study to explore both teachers' and students' perceptions of digital technology use for e-learning and pedagogical practices. This is a unique study in the EFL higher education context in Saudi Arabia that considers both the dimension of e-learning technology and heutagogical learning and collects data from both teachers and students.

1.8   Dissertation Outline

Chapter 1 provides the background to the study, also presenting the rationale for the planned investigation, the theoretical framework, research questions and the methodological approach for the research. Chapter 2 presents a review of the literature pertaining to learner-centred pedagogy and the integration of digital and e-learning technologies in the Saudi e-EFL tertiary context. Chapter 3 reports on the methodology and methods used, providing details of the research

approach, study sample, data collection methods, and research procedures deployed in the study, including ethical considerations relevant to the research. Chapter 4 presents an analysis of the survey data collected as part of the study, whereas Chapter 5 discusses these results in the light of the literature reviewed in Chapter 2. Chapter 6 presents the conclusion to the study, summarising key findings, and detailing the recommendations and future research directions arising from the study.

2   Literature Review

2.1   Introduction

Just as technological advancements in recent years have led to a proliferation of digital technologies inside and outside the classroom, these progressions have also sparked academic interest in the potential opportunities, drawbacks and implications of technologies for pedagogy (Bacca et al., 2014; Golonka et al., 2014). In particular, there has been an expansion of scholarly enquiry into educational technology and potential consequences in the context of EFL education (Tondeur et al.,2017). These technological innovations have created a significant number of opportunities for language learning, creating diverse educational strategies in areas where access to EFL education may have been limited by information access and infrastructure (Lee et al., 2016). In particular, for countries in the Global South, where educational access has previously been limited due to lack of funding or for well-developed educational institutions, digital technologies can offer new solutions for students to learn online or using mobile technologies (Cochrane, 2014). In addition, digital technologies are also transforming pedagogy, allowing students 'to take control of their own learning process' and to exercise agency in the way they approach language learning (Lee et al., 2014, p.2). Thus, digital technologies have enormous potential to improve EFL pedagogy.

In this chapter, I review the literature relating to digital technologies, with a particular emphasis on research that has investigated and theorised the implications of digital technologies in EFL education. First, I present the cultural context of learning and teaching in Saudi HE and then discuss the introduction of e-EFL in KSA. Next, I elaborate on the integration of digital technologies in the EFL classroom and follow this up with a discussion of the learning paradigms for e-learning. Lastly, I discuss the principles of heutagogy and construct of self-efficacy in regard to self-directed and self-determined learning made possible with the help of e-learning to advance EFL learning and EFL learner development.

2.2   The Cultural Context of Learning and Teaching in Higher Education (HE) in KSA

2.2.1   Government Aims

In recent years, much attention has been paid to English language education in the KSA, in part due to increased government efforts to reform the educational system and to encourage Saudi

students to study abroad in English speaking nations such as the United Kingdom and the United States (Smith & Abouammoh, 2013). Over the course of the past decade, the Saudi education system has been transformed as a result of a wide range of initiatives aiming to ensure that all children across the country have access to schools, English language learning is integrated into the curriculum at an early stage and an increasing number of students are enabled to access tertiary education (Elyas & Picard, 2013). The most significant of these reforms have focused on HE, and these changes represent attempts by the government to produce a Saudi workforce with the skills and knowledge to compete in an increasingly globalised employment market (Elyas & Picard, 2013). The Saudi government views educational reform as the key to solving the nation's economic challenges and has consequently invested significantly in infrastructure, teacher education, educational technology, and curriculum reform (Smith & Abouammoh, 2013).

Under the implementation of policies undergirding the 5th and 6th Saudi National Development plan (SNDP) over the decades spanning 1990-2000, technology integration within the Saudi system of education became more discernible with computer science course being introduced as an elective at primary level and as a compulsory module in secondary schools (Alghamdi & Holland, 2020). Over the period of 2000-2014 (7th, 8th & 9th SNDPs), the Ministry of Planning (MoP) and the Ministry of Economic Planning (MoEP) launched ICT skills training for teachers and students in addition to integrating technology further in the classrooms (Alghamdi & Holland, 2020). In parallel, the national implementation of the Watani Project launched in 2000 and the Tataweer Project spanning 2007-2023 have, respectively, been aimed at integrating technology in Saudi schools and leveraging learning with technology by upskilling teachers and learners, establishing effective ICT-enabled learning and preparing students for an economy based on knowledge (Alghamdi & Holland, 2020). In addition to the 10th SNDP 2015-2019, the KSA government has launched the National Transformation Program (NTP) 2016–2020 to fulfil the remit of the Saudi Vision 2030 programme (Alghamdi & Holland, 2020). The objectives of NTP include 'improving the recruitment, training and development of teachers, improving the learning environment to stimulate creativity and innovation, and improving curricula and teaching methods' (Kingdom of Saudi Arabia, 2016). A useful summary of the historical development of technology integration in the Saudi educational system is offered by Abouelnaga et al. (2019, p.4153) as presented below (see Figure 2). As the figure shows, since the earliest efforts towards integrating technology in KSA educational environments in the form of computer assisted learning in the 1990s, the continuing infusion of technology-supported learning over the decades reflects parallel advances and trends in educational technologies, ranging from e-learning, web-based learning,

mobile learning to an immersive smart learning environment. This section will explore the context for these changes and consider the principal factors currently shaping HE in the KSA.

Figure 2

Historical Development of E-learning in KSA (Abouelnaga et al., 2019, p.4153)

Historical Development of Educational Technology

Smart Learning Environment

M-Learning

Web-Based Learning

E-Learning

Computer Assisted Learning

Smart Devices

Web 2.0

2010

Internet

2000

Standalone Computer Programs

1990

The specific decade or period of the gradual historical development of technology recorded here is based on its acceptance by the higher education communities and groups. It does not reflect the release date of the invention.

The KSA, similarly to other nations, has experienced a proliferation of e-learning resources. One research group estimated that the value of the Saudi e-learning market was growing at the rate of 33% per annum (Alenezi et al., 2010). Picard (2018) summarises key efforts undertaken by the Saudi government to integrate technology for e-learning into educational settings. These include the introduction of mandatory computer courses in the secondary school curriculum for boys, mandatory ICT for male and female learners at secondary school in 1991, and ICT integration into all high school subjects. The Watani Project launched in 2000-2001 progressed to provide computer labs and internet access and next, the Tatweer programme rolled out in 2007 launched 50 smart schools nationwide at the piloting stage and these facilities were provided with Wi-Fi

access, smartboards, LCD projectors and digital cameras and teachers and students were provided with laptops and Wi-Fi access.

The National Plan for Information Technology (NPIT), which promotes e-learning and distance education in tertiary settings, was established under the direction of the Saudi Ministry of Higher Education (Alnahdi, 2019). The NPIT, in turn, set up the National E-learning and Distance Learning Centre (NELC) to furnish not just technical support but also essential ICT tools for developing digital content for tertiary education, serving as the medium for the standardisation of higher education institutions. To address the needs of a fast-growing population of university age learners and to cope with limited trained teaching faculty, NELC has provided multimedia resources to support teachers in integrating blended learning in their courses, in addition to a learning management system known as Jusur, which enables learners to access their homework, submit assignments, and participate in discussion boards for the course (Alebaikan & Troudi, 2010).

In Saudi EFL tertiary settings, wide availability of the internet and smartphones allow the use of mobile learning for improving English language proficiency of HE students. For instance, in an experimental study undertaken by Ahmed (2015), 50 tertiary e-EFL learners at a Saudi university were assigned in equal numbers to control and experimental groups .While the control group was taught conventionally, the experimental group learners used their smartphones to review materials, develop vocabulary, undertake listening exercises, to make audio and video recordings for language learning, and to complete grammar assessments. The study found not only that the experimental group learners outperformed peers learning conventionally but also that they were more motivated in their e-EFL learning.

Further, in the context of the Saudi EFL classroom, e-learning laboratories fitted with internet access, which are also equipped with the latest software and hardware, have now been introduced in all Saudi HE institutions. While learners use the labs to access dictionaries, educational and testing software, teachers can use them to disseminate teaching materials and to send and receive files via email (Hashmi, 2016). The survey of research on e-learning and e-EFL learning has shown gaps in existing literature. If the aim of e-EFL reforms is to transform the language learning paradigm, then there is a need to focus not just on e-EFL learner perceptions of e-integrated language learning but also how they use digital technologies to support their learning and what pedagogical approach does this best reflect.

The need for the promotion of English has been recognised by the Saudi government which has invested significantly in English language education through a number of initiatives. These include sponsoring Saudi graduates in postgraduate study in the UK and US, investing in teacher education, and importing native speaking English language teachers from the UK, US, and Canada (Smith & Abouammoh, 2013). In addition to this, in 2007, the government launched the Tatweer initiative, which aimed to promote the use of digital technologies in the Saudi classroom (Tayan, 2017). This was particularly targeted at certain subjects, including English language education, and was also aimed at producing graduates who were comfortable using different technologies (Tayan, 2017). This effort was regarded as the first stage in modernising and Westernising the KSA education system and was followed with corresponding curricular reforms.

Positive results have been achieved within the KSA in improving the process of learning. At the onset of the year 2000, the Crown Prince Abdullah commissioned the Watani project to promote the integration of technology within KSA schools. The programme aimed to provide at least one computer for ten students and to provide internet access in the school classrooms and lessons. A potentially valuable concept included in the programme was to connect all schools and education departments in the KSA and the Ministry of Education through an integrated network. This programme, thus, acknowledged the effects of globalisation on education in an information age and addressed the need to acquire knowledge through computers to cope with the demands of modern society.

More recently, in 2015, the government announced its ambitious 2030 Vision, which comprises a 15-year plan to modernise and diversify the Saudi economy. The document contains a wide variety of different types of reform, but perhaps most notable is the desire to reform pedagogy in the Saudi classroom (See section 2.2.5 for a detailed explanation of the prevalence of traditional teaching methods in KSA). The 2030 Saudi Vision also includes significant investment in educational technologies, including ICT technologies in the classroom, use of mobile and remote learning tools, and communication technologies to assist in language acquisition. This is a significant opportunity within the Saudi context, as the population are extremely technologically literate, and internet access is widespread, particularly through mobile technologies. To date, however, it is not yet clear what impact these reforms are having, since they originate in teacher training and require time to filter down into cohorts of students (Smith & Abouammoh, 2013). Hence, the current study is particularly relevant because it examines the extent to which e-EFL learners have benefitted from e-learning technologies aimed at enabling them to achieve independence in their language learning.

So while KSA has recognised its deficiency in terms of an analytically oriented workforce and invested heavily in digital technologies for educational settings and language learning, there has been cultural resistance and no investment into changing the teaching paradigm to a more learner-centric version, which would support the development of analytical thinkers.

2.2.2   The Influence of Wahabi Islam on the Learning Paradigm in KSA

The KSA is a large country in the Arabian Gulf, with a population of around 30 million (CIA World Factbook, 2017). The vast majority of Saudi citizens are Muslim Arabs, and the country has a particular religious' significance for Muslims across the world because cities where the Prophet Muhammad lived are located there, and form the focal point for the annual Muslim *Hajj*, or pilgrimage (Bowen, 2014). The KSA is a relatively young country, having been established in 1932 when the tribal dynasty of the House of Saud defeated their Hashemite rivals and established themselves as the ruling power in the Peninsula (Al-Rasheed, 2010). The power of the Saudi dynasty was cemented through a strategic alliance with the Wahhabi religious sect, a Salafist movement that was particularly influential in the east of the Peninsula during the 19th century (Hourani, 2005).

This alliance between the Saudi monarchy and the Wahhabi religious establishment means that the *ulema* (Islamic scholars) in the KSA exercise significant power and control over social and political affairs (Commins, 2005). This traditional religious culture persists despite the rapid development and modernisation of the Saudi state over the course of the 20th century, and has particular implications in the field of education, creating a socially prescriptive culture that limits the rights and movements of citizens, particularly women and minorities (Commins, 2005). The Saudi education system has been heavily affected by the influence of Wahhabism within Saudi society. The Wahhabi ideology enforces a patriarchal and authoritarian culture within Saudi society and this is reflected in the education system and state institutions (Abalkhail & Abalkhail, 2017). Religious education, moreover, plays a prominent part in Saudi schools, and care must be taken not to teach ideas and issues that contradict with Wahhabi teaching. In addition to this, religious educational methods, characterised by rote learning, hierarchical classroom structures, and highly regimented teaching styles dominate in most other subjects too (Smith & Abouammoh, 2013). Religion, therefore, tends to support a retention of the knowledge-transfer teaching paradigm in the Saudi classroom.

To conclude, under the imperatives of the global knowledge economy, the fast-changing contemporary workplace requires workers who are critical thinkers and problem-solvers. As a

teaching paradigm based on rote-learning does not promote independent thinking, the prevalence of a knowledge-transfer pedagogical paradigm in KSA offers inadequate workforce preparation or creates conflict where it does happen.

2.2.3   Economic Development Towards a Knowledge-based Economy in KSA

The development of the KSA through the 20th century was driven by the discovery of oil in 1938 and the subsequent establishment of an oil concession for the United States (Cooper, 2011); following this, the KSA emerged as a key international oil-producer and exporter. The resulting boom in oil revenues allowed the Saudi government to invest extensively in education, healthcare, infrastructure, and public services, sparking rapid development across the country (Al-Rasheed, 2010). As a result, the KSA experienced a population explosion, which translated into an age profile with 47 %of Saudi citizens being under 25 (CIA, 2017).

This rapid development has created several economic and social problems within the country (Al-Rasheed, 2010). As the state has been largely dependent on the 'rent' of its natural resources (i.e., oil) for its income, it has been characterised as a 'rentier' economy, like many of its Gulf neighbours (Beblawi, 1987 a&b). According to Beblawi (1987, p.47), 'a rent may be considered a reward for ownership of all natural resources'. (Marshall 1920 in Beblawi 1987, p. 47) observes that rent can be viewed as the 'income derived from the gift of nature'. Rentier states exhibit a number of common features, ranging from a lack of well-developed domestic industries, over-reliance upon finite resources subject to eventual depletion, high levels of unemployment and low levels of political accountability as the government's authority and mandate is not rooted in taxation and popular legitimacy, but rather in economic resources (Beblawi, 1987). In the long term, these issues create significant structural problems that can lead to economic, social, and political tensions. In the case of KSA, the particular problems facing the country are rooted in the lack of employment opportunities for the expanding and increasingly educated youth population (Ramady, 2013). High unemployment caused by the lack of jobs provided by the rentier economy can result in frustration, and over time in the KSA, this has led to radicalisation of the youth (Commins, 2005). Further, limitations to the educational system have meant that Saudi graduates have often been unable to compete for jobs internationally (Smith & Abouammoh, 2013). In the KSA, the education system has come under intense domestic and international criticism for its apparent failure to produce the type of graduates who can further the nation's economic development (Smith & Abouammoh, 2013). In his analysis of the rapid slew of Saudi educational policies and reforms over recent decades, Tayan (2017, p.63) traces the shifts in policy to:

the growing crisis in the Saudi education system within its inability to develop a dynamic knowledge society that accelerated economic development, the aftermath of 9/11, WTO [World Trade Organisation] membership and labour market needs were all drivers that highlighted the need for reform.

Despite recent reforms, the Saudi education system remains relatively ill-adapted to the international job market, and Saudi graduates find themselves unable to compete with their counterparts from North America and Western Europe for skilled positions in technology and industry (Smith & Abouammoh, 2013). It has been argued that the educational system in KSA 'is stagnating, producing graduates who do not meet international standards of excellence' (Karasik, 2015, para 5). Analysing the complexities of KSA reforms in education, Moshashai and Bazooband (2020, p.1) observe that, despite massive investment in the educational settings within the country, the system across primary, secondary and tertiary educational levels 'retains many inefficiencies and does not equip students with the skills necessary to meet the needs of the labour force'. They add that 'students at every level [are] characterised by a lack of critical thinking and analytical skills' and that school learners 'tend to score below average on international benchmark assessments, such as PISA and TIMSS, and lag behind other GCC and regional countries in performance' (Moshashai & Bazooband, 2020, p.1). Many Saudi graduates are unwilling to take on low-skilled positions, and, therefore, the Saudi economy is reliant upon large numbers of foreign workers, at both ends of the jobs market (Al-Asfour & Khan, 2014). For Saudi nationals, therefore, unemployment remains particularly high, and the job market in the country is dominated at both ends by foreign workers.

These economic issues have had a significant impact on the development of the education system in the KSA. Although there has been an abundance of funding for development in education in recent years, there is a need to align the education system with the country's economic needs to alleviate unemployment and to allow the KSA to transition beyond the rentier model (Smith & Abouammoh, 2013). The Saudi government has invested heavily in the education system for this purpose and has enacted a number of curriculum reforms in recent years that are expected to produce qualified graduates, who can work to diversify and boost the domestic economy.

Further, in the wake of globalisation and its associated economic changes, English language skills are now regarded as essential for Saudi graduates .As the global lingua franca, English is required to provide access to high status, highly paid jobs, and to enable developing countries to build

productive relationships with their neighbours in the Global North (Crystal, 2012). English has emerged as the dominant language of commerce, trade, and industry, and is, therefore, an essential skill for Saudi graduates hoping to drive forward the country's economic development (Smith & Abouammoh, 2013). Globalisation and the rise in knowledge-based economies in many contemporary developed societies have introduced new demands and challenges for the Saudi workforce (Niblock, 2015). Globalisation, broadly defined as the breaking down of barriers to economic and cultural exchange between territorially bound nations and societies, has produced a global employment market in which transferable knowledge and skills arguably deliver more value than manufacturing and production (Antonelli & David, 2015).

A knowledge-based economy places demands on graduates who are expected to acquire transferable knowledge and skills and to be able to adapt themselves to a wide range of occupations (Smith & Abouammoh, 2013). In the new global knowledge economy, graduates must develop critical thinking skills, adaptability, and the ability to respond to technological change, if they are to compete successfully. The rise of the knowledge economy, as a way of using skills and knowledge to create value, presents a significant opportunity for developing nations and puts the education system at the heart of development and economic policy.

Thus in KSA, over the decades, global and local imperatives have necessitated a shift to a knowledge-based economy which in turn has resulted in the need for education reforms, including an increasing focus on EFL proficiency given the status of English as a global lingua franca, to prepare Saudi graduates for integrating and performing well within a globalised workplace.

 In an attempt by the government to produce a Saudi workforce with the skills and knowledge to compete in an increasingly globalised employment market (Elyas & Picard, 2013), the Saudi government views education reform as the key to solving the nation's economic challenges, and has consequently invested significantly in infrastructure, teacher education, educational technology, and curriculum reform (Smith & Abouammoh, 2013). As Quamar (2016, p.7) elaborates, Saudi Arabia's education reforms are focused on 'transform[ing] itself into a knowledge society' by 'diversify[ing] its oil-based economy and working toward creating more job opportunities through Saudisation of the work force'. Thus, Quamar (2016, p.7) notes that these educational reforms are targeted at the development of a 'robust educational system-one that can produce knowledge and diffuse it, and prepare the youth to contribute to economic development'.

Thus the education system is not providing the kind of critical thinkers with the capacity to contribute effectively to the domestic workforce and to the global economy. It appears that

despite government initiatives (see section 2.2.1) to invest in the intellectual transformation and upskilling of Saudi learners, the culturally-driven knowledge-transfer teaching methods (see section 2.2.2) may be preventing the development of critical thinkers. Thus, institutional practices aimed at investing a huge amount of money to equip universities with digital tools are of little use unless they are used effectively with clear strategies as the availability of these digital technologies does not necessarily translate into improved academic achievements. Thus there is a need to explore the types of digital technologies and e-learning strategies that have been incorporated into the e-EFL classroom and the kinds of support or trainings for teachers to address this gap between the availability of these technological tools and the methods of implantation.

2.2.4   Growing Need for E-EFL and Digital Technologies in KSA

With the discovery of oil within the KSA has arisen the need for planning language learning. Oil revenues transformed the country's economy, catalysing a wider scope of social change at an individual and national level .The influx of foreign powers who were oil consumers began to create the need for social change, however, the prevalence of different ideologies connected to the dominant influence of Islam in the leadership and decision making hindered the adoption of change (Profanter, 2014). Religion shapes the behaviour of most Saudis and influences the degree to which they can tolerate foreign ideas; further, in the KSA, Islam is practised in a more permeating and intense manner than in any other part of the Islamic world and, therefore, strongly influences citizens' lives (Smith & Abouammoh, 2013). However, small sections of the population, including the educated elites, such as teachers, military trainers, and official staff within the Saudi establishments who hold less puritanical views are supportive of the use of the English language. English strongly supports administrative and economic activities, which are closely linked to Western nations; English language learning can, therefore, support potential employment both at national and international levels. However, within the KSA, cultural resistance to change significantly curtails integration of technology in the e-EFL learning process as the majority of the citizens do not support the use of English. Further, the approach to teaching in KSA schools is largely teacher-centred, which often disengages students, whose learning experiences are affiliated with technology dependency (Al-Asmari, 2005). In conclusion, implementing digital technologies within the education system presents an opportunity to implement a more learner-centred approach but this may still be challenged by resistance to change.

Contemporary Saudi youth are extremely technologically-literate and has access to multiple forms of Western culture online (Smith & Abouammoh, 2013). As the Cambridge International Global Education Census (Cambridge Assessment International Education, 2018) shows, 50% of their Saudi student respondents reported that they made use of desktop computers during class sessions, with two out of five respondents noting that smartphones were deployed as educational tools during the lessons, whereas 14% used IPADs and tablets for the same purpose. According to the report, there is widespread use of interactive whiteboards in class, with 50% of the Saudi teachers sampled in the survey reporting that they made use of these to deliver their lessons. The World Economic Forum Global Economic Competitiveness Report (Schwab, 2019, p.19) also shows that ICT adoption is strong in Saudi Arabia with the country gaining 9.4 points to ascend to 36th position in the Global Competitiveness Index (GC Index). The report also notes the swift deployment of broadband technologies and rise in the number of internet users in Saudi Arabia. Saudi youths already have IT literacy skills providing excellent grounding for further education. Therefore, it may even be argued that developing critical thinkers to meet society's needs is not hindered by IT literacy levels.

There is widespread interest in arts, literature, culture, both from the Arabic speaking world and the West. This has sparked an appetite for English language learning and has facilitated the government's educational reforms. It should be noted, therefore, that although Saudi society is often presented as conservative and opposed to Western-inspired innovations, in reality there is a flourishing youth culture that may provide a significant market for these new digital technologies (Abouelnaga et al., 2019). Thus not only are the youth IT literate but they are also motivated to learn English.

In recent years, the KSA society has undergone a process of modernisation in the different aspects of life. This process has involved seamless integration of modern technology with cultural ideas and norms and the promotion of the use of English as a means of communication (Al-Hamzi, 2015). Modernisation has also happened in other areas of life, such as where English is used in daily activities of life (Mahboob & Elyas, 2014). Similarly, the development of other regular activities such as listening to and watching foreign media and accessing higher education in Western nations have contributed to this modernisation (Al-Asmari & Khan, 2014).

To conclude, it would appear that amongst the educated elite in Saudi society, there is support for EFL learning. However, cultural resistance to EFL learning amongst the populace and the teacher-fronted pedagogy prevalent in the education system continue to hinder the effective integration of technology in EFL learning. Nonetheless Saudi youth already have strong IT literacy and are motivated to learn English. Further with modernisation in KSA lending impetus to the

adoption of the English language, there is a growing need for e-EFL in KSA. Therefore, it may be argued that effective teaching paradigms and the implementation of supporting technologies are essential.

2.2.5 Challenges in Implementing Learner-centred Pedagogy Within HE Sector in KSA

Despite efforts to improve education in the KSA in recent years, there remain a number of significant problems within the education system. In particular, Saudi schools and teachers frequently come under fire for the traditional methods and teaching paradigms used throughout the country (Al-Seghayer, 2014). In Western Europe, pedagogical reform over recent decades has sought to transform conceptions of teaching away from teacher-centred models, in which knowledge is construed as externally located, objective and transmissible from teacher to student (Brande & Ginnis, 1996). These approaches place emphasis on the teacher's capacity to transmit knowledge and information and the student is construed as a passive recipient of this predefined information (Brande & Ginnis, 1996). Therefore, this passive learning approach develops students who are unlikely or unwilling to question, and who simply absorb information without actively engaging in the learning process (Hattie, 2012). In sum, such a knowledge transfer teaching paradigm leads to a lack of criticality on the part of the learners who are left ill-prepared to cope with the complex and ever-changing demands of the contemporary workplace and global knowledge economy.

The context of the shift to learner-centred approaches is elaborated by Gash (2015). Citing Kreis (2009), Gash (2015, p.6) observes that cultural and educational transformation in the 1960s accompanied by student unrest in countries like France, USA and Japan led existing teacher-centred pedagogical models to be replaced with more learner-centred pedagogy. This gave rise to a constructivist model of teaching and learning which replaced earlier teacher-centred transmissive teaching with a view of the teachers as facilitators and learners as problem solvers actively co-constructing knowledge in partnership with one another. The transmissive approach has been found to be prevalent in the KSA (Tayan, 2017). However, in recent years there has been a distinct push to encourage a more learner-oriented paradigm, using learning models that allow students to take a more active role on the learning process and to take ownership over their own learning strategies (Tondeur et al, 2017). With this approach, the role of the teacher is construed as facilitating learning.

At the policy level, KSA has attempted to take account of these shifts and foster changes in pedagogy, as reflected in the curriculum for teacher training outlined in Vision 2030 which was launched in 2016. However, these changes have yet to take effect across the country; recent research has identified that rote learning, memorisation, and repetition remain popular strategies in the Saudi classroom, and many teachers often simply pay lip service to the new approaches, rather than integrating them effectively into their lessons (Tondeur et al, 2017). In part, the problem may be derived from deficiencies in teacher education and the relative lack of a clearly articulated strategy that will enable teachers to move on from traditional approaches (Al-Hazmi, 2003).

Another key problem within the Saudi system is that while there is recognition that teaching paradigms need to move on, the institutional culture within schools and universities remains rigid, hierarchical and authoritarian (Smith & Abouammoh, 2013). Saudi universities are run according to a strict hierarchy, and there is a lack of available funds, resources and support for teachers in their professional development (Al-Sehayer, 2014). Essentially, while there has been increased investment in educational reform and integration of technology, this has not been extended to professional development for those who are already teaching. There remain very few institutional frameworks that facilitate the development of communities of practice for teachers, and many studies have demonstrated that university administration is largely resistant to change (Al-Sehayer, 2014). The top-down, authoritarian approach to knowledge and learning is, therefore, implicitly and explicitly reinforced at the institutional level, affecting university culture, and perhaps explaining why such attitudes and approaches persist in the Saudi classroom, despite government reforms. Teachers are not encouraged to question the hierarchy; compliance and obedience are rewarded, so there is little incentive or scope for innovation on the part of teachers and university staff (Smith & Abouammoh, 2013).

In most developed countries, schools request increasingly larger budgets to support the implementation of technology resources in learning and for the professional development of teachers to effectively adopt such technologies. Studies indicate that the education sector is lagging significantly relative to other sectors in terms of the frequency and quality of technology integrated into professional practice (Anderson & Weert, 2002).

Currently in the information age, some teachers are still strongly resisting the integration of technology into classrooms. Moreover, negative perceptions towards technology exist, with teachers being unconvinced of the added value of technology to learning. Further, those who do support technology integration have difficulty implementing it effectively. Despite the efforts of the

government to change the learning paradigm in KSA, a passive approach to learning persists in the country's educational institutions. This is exacerbated by a hierarchical institutional culture of compliance that discourages innovation on the part of the teachers mentioned above.

In summary, pedagogical reforms in the West towards learner-centred approaches, which encourage critical thinking and might help develop the workforce KSA misses, are hindered by deficient teacher training, lack of budget for appropriate pedagogical training, and institutional and individual cultural traditions. These challenges suggest the need to pay close attention to whether or not the fast-paced integration of e-learning technologies in e-EFL settings within KSA has been accompanied by the desired shift towards active and heutagogical learning, which is the aim of this study.

2.3 E-learning and Digital Technologies and Learner-centred Learning

The term e-learning has been so widely adopted in the literature that it has simply become synonymous with the use of ICT technologies and the internet in an educational context. According to Januszewski and Molenda (2008), the precise operational definition of digital technologies is constantly shifting and depends largely upon the technological developments, norms, and practices of the given era.

A literature review study by Aparicio et al. (2016) shows that e-learning is linked to the use of computers for learning, along with a range of other concepts that include online learning and virtual learning, in addition to m-learning or MOOC (Massive Open Online Course) and learning management systems. Based on an extended review of literature and the findings of a Delphi survey implemented to canvas opinions of experts, Sangrà et al. (2012, p.148-149) found that e-learning was defined in accordance with the general categories: i) technology-driven (e-learning as the use of technology for learning), ii) delivery-system-oriented (as a means of accessing knowledge), iii) communication-oriented (a communication, interaction, and collaboration tool), and iv) educational-paradigm-oriented (as a new way of learning). A systematic literature review of ninety-nine academic articles between 2010-2018 by Rodrigues et al. (2019, p.95) led the researchers to define e-learning in the following way:

> E-learning is an innovative web-based system based on digital technologies and other forms of educational materials whose primary goal is to provide students with a personalised, learner-centred, open, enjoyable and interactive learning environment supporting and enhancing the learning process.

It is argued that e-learning is a disruptive technology which is presently being used to transform learning in educational settings (Garrison, 2016). A disruptive technology is any technology that leads to a basic transformation not only of existing technologies but also of the rules and entrepreneurial paradigms of a business market (Oxford Reference, 2022). In the context of the present study, e-learning may be described as a disruptive technology because it has led to a fundamental transformation of student learning and preparation for the workplace.

Valverde-Berrocoso et al. (2020) discuss the mapping of e-learning pedagogies into four generations by Dron and Anderson (2016). The mapping demonstrates that these generations are identifiable by their theoretical underpinnings. Valverde-Berrocoso et al. (2020) add that, in addition to the behaviourist/cognitivist generation, the other generations include the constructivist, connectivist and holistic e-learning generations. The prevalent holistic generation draws upon all pedagogical traditions with a focus on 'learning analytics, collective technologies, deep learning and artificial intelligence, disaggregated tools and services, mobility and device diversity, the internet of things…ubiquitous computing, virtual and augmented reality' (Valverde-Berrocoso et al., 2020, p.22). The implications of this evolving generation of e-learning pedagogies is that they are characterised by student-centeredness, technical, social and organisational distribution, emergent, integrated and authentic nature with such learning being distinct from accreditation (Valverde-Berrocoso et al., 2020, p.22).

In addition to comprising 'the technical solution to support teaching, learning as well as for the studying activities' (Suhonen, 2005 as cited in Basak et al., 2018, p.194), it can also be considered 'an educational software, a digital learning tool, an online study program or a learning resources' (Anohina, 2005 as cited in Basak et al., 2018, p.194). Basak et al. (2018, p.194) clarify that 'm-learning is the subset of e-learning and d-learning is the combination of e-learning and m-learning'. The term 'e-learning' is used to denote the use of ICT technologies and the internet in an educational context. Hence this thesis is not specifically about m-learning, the term e-learning as defined by Anohina (as cited in Basak et al., 2018) will be used in order to avoid confusion.

In the contemporary period, conceptions of digital technologies have been profoundly shaped by the rise of digital technologies, and more recently, the internet (Spector et al, 2014). However, to understand digital technology in the present day, it is essential to examine current developments in communications technology and media, computer software, artificial intelligence, and online applications, cultural practices, and norms. Moreover, the proliferation of literature relating to digital technologies has given rise to significant conceptual confusion and the use of multiple, overlapping terms within the literature. Therefore, there is a need to distinguish between

processes, implications, and implementations of technological learning, as much of the literature on educational technology fails to make this distinction clear (Januszewski & Molenda, 2008).

2.3.1 The Processes, Implications, and Implementations of Digital Technologies

The processes involved in the use of educational technology relate strongly to theories of learning, which will be explored in depth in section 2.4 below. Digital technologies tend to be developed within the framework of existing learning theories whether behaviourist, cognitivist, or constructivist and use newly developed technologies to create opportunities for learning. Thus, technology advancement in education is projected to enhance a more social teaching and learning environment. In the modern learning context, the concept of digital technology in classrooms (DTC) refers to ways in which information is processed digitally to promote active learning, the construction of knowledge, inquiry and a mechanism of exploration among learners, while also facilitating remote communication and sharing of information among both teachers and students in different physical locations (Nickerson & Zodhiates, 2013).

By exploring the implications of digital technology, however, I focus particularly on whether such technologies are effective: i.e., whether they help students to achieve educational goals and whether they facilitate pedagogy (Spector, 2015). A significant amount of the literature is devoted to these types of questions, although these studies seldom interrogate the learning theory that underpins different types of digital technologies (Januszewski & Molenda, 2008).

Studies that explore digital technologies from this perspective often use the term e-learning (electronic learning) which refers to the use of computers, ICT technology, and the internet as a learning tool (Bates, 2005). Implementing of digital technologies in education, on the other hand, involves integrating information delivery systems and succinctly clarifying the role of technologies within the classroom context. Therefore, if not implemented correctly, it is possible that technology may fail to meet the needs of social/active learning. Experts have argued that the main importance of digital technologies within the learning environment is its ability to promote dialogic and emancipatory practice, where the learner-centred approach is developed, creating room for the active participation and empowerment (Robertson & Al-Zahrani, 2012). The rapidly changing nature of technological development is such that the mid-to long-term implications for pedagogy of the introduction of DTC have not yet been fully understood .There is a need, therefore, for further research that examines the way in which these technological changes are impacting upon pedagogy in the EFL classroom. As mentioned earlier, there are influences which may be

preventing DTC from achieving its full potential in the KSA and it would be useful to gather evidence of the outcomes of integrating digital technologies, as addressed by this thesis.

2.3.2   The Integration of Digital Technologies Within the E-EFL Education

Technology integration in education is the practice of incorporating technology in the process of teaching and learnin. It provides empowerment for individuals to access new possibilitie.This is attained through transforming people's thinking, knowledge, and communication through a digital platform. In the context of education, information technology integration relates to the use of computers and the internet to enhance the efficiency and effectiveness of the learning and teaching processes (Kim, 2008). As a result, technology allows the extension of educational opportunities in addition to facilitating the process of acquiring and absorbing knowledge through leveraging on computers.

 The integration of digital technologies in English language learning is conventionally portrayed as limited to specific age groups due to the perceived complexity attributed to technology (Barrett, 2015). However, research indicates that increasingly educational practitioners are embracing digital technologies within the early years of learning. Students gain access to technologies from an early age within the home environment, which allows them to use ICT innovatively at a young age. By the time children attain nursery school age, most have acquired digital technology skills, which facilitates better participation in technology-driven activities when they enrol in school. Consequently, this has inspired tech-savvy teachers to further embrace the interests of these children through digital play (Januszewski & Molenda, 2013). This can be achieved by creating language learning opportunities to enhance the educational experience for children such as using available computer games.

Moreover, it is worth noting that the integration of technology in EFL classrooms significantly promotes learner autonomy. Students acquire the basic skills and knowledge to facilitate independent learning. Although not completely replacing teachers, technology to some extent provides the support usually delivered by teachers. An of technology use in support of language learning includes the adoption of text-to-speech features of interactive textbooks .These resources allow learners to read and enjoy books, which are at a more advanced level, through reading and redefining words. Similarly, online tutorial applications facilitate students by providing remote access to teacher tutorials and materials from their homes.

Additionally, the integration of digital technologies within e-EFL classrooms promotes student engagement and motivation, mostly because technology is fascinating and also constantly

changing (Kim, 2008). Based on an extensive survey of 398 studies on technology-assisted language learning published between 2014 and 2019, Shadiev and Yang (2020, p.6) provide a comparison of such technology use over the span of the studies included in the review. As Table 2 shows, technology application in language learning has expanded from course management, communication, input presentation and online books to game-based learning, virtual and augmented reality, digital resources and learning tools, web-based intelligent tutoring to robots, clickers and wearable devices. Bojinova and Oigara (2013, p.154) explain that clickers are input devices enabling learners 'to express their views anonymously, without fear of being ridiculed by their peers in case their answer is incorrect'. They add that each numbered/coded clicker enables the teacher to maintain a record of student responses and to tailor instruction according to the learners' understanding and learning needs. 'Wearable devices' can be worn on the body, often in the form of an accessory such as eyewear, watches, or as clothing items, such as shoes or jackets' (Engen, Giæver & Mifsud, 2018, p.323). Engen, Giæver & Mifsud provide an example of how smart watches can be used to generate health and positioning data by the students which they can then analyse in the mathematics class and discuss in the social studies lesson from the topographical perspective and in the ethics class to debate issues such as privacy.

Table 2

Comparison of Technologies (Source: Shadiev &Yang, 2020, p.6)

Old	Still in Use	New
Course management system	Game	Online video
White board	Corpus	e-Books
e-Portfolio	Automated feedback	Voice recording
Internet forum or message board	Social networking	Augmented reality
iPod	Instant messaging	Robots
Digital library	Virtual reality	Clicker
	Websites and digital resources	Wearable devices
	Speech recognition	
	Collaborative writing	
	Electronic gloss or annotation	
	Intelligent tutoring system	
	Electronic dictionary	

Shadiev and Yang (2020, p.14) found that most of the studies reviewed by them reported 'better outcomes for students when their learning was supported by technology'. Their review also revealed that the use of technology not only motivated and engaged the learners but also provided them with 'target language input, output, and feedback', further providing teachers with an effective way to 'organise course content and interact with multiple students' and to 'adjust their teaching activities as well as change their teaching strategies to make the most effective use of existing resources' (Shadiev & Yang, 2020, p.14).

For instance, based on the findings of qualitative phenomenological investigation into Colombian EFL learners' motivation to learn English in university virtual and distance modalities, Fandiño et al. (2019, p.6) found that deploying e-learning 'seems to contribute significantly to English

learning', although effectiveness was also revealed to be mediated by students' own types of motivation, quality of teacher support and entertaining quotient of the strategies deployed by the teachers.

Effective use of technology within the classroom can transform a mundane lesson into a powerful and thought-provoking one. For instance, learning materials that are designed with augmented reality can enable learners to learn vocabulary more effective, while also motivating them towards e-EFL learning (Salik & Cakir, 2015). English learners experience a high degree of motivation within the classroom using innovative technology solutions such as videos, movies, news, trailers, music, and other resources.

These resources transform the English learning lessons positively, increasing student engagement and excitement. With the integration of computers and the Internet into the learning environment, the paradigm of education has shifted due to 'implementation of a large variety of edutainment types in the learning process' which 'strength[en] the relationship between learning, new media and play' (Zorica, 2014, p.4089). In fostering motivation, technology reduces the time needed for learning and provides more opportunities to learn in non-traditional ways. The technological resources, thus, transform the way students learn. Students exhibit more interest in classes where technology is the main resource, as opposed to traditional teaching methods (Kim, 2008).

In an edited volume titled *Innovations in learning technologies for English language teaching* that explores cases of technology integration across different pedagogical settings, Motteram (2013, p.176) comments that digital technologies 'are doing more than simply providing a medium through which teachers can meet the immediate needs of their learners in terms of language development'. Rather, Motteram (2013, p.176) notes, they are actually making it possible for teachers to engage 'in activity that supports language development in more profound ways than has hitherto been realised'.

However, it is worth distinguishing between the integration of technology at a superficial level and the interweaving of technology that aims to deliver optimal results for teachers and students. Integration does not imply offering students direction to complete a distinct internet activity (Ramchandran, 2004). Rather, it means using technology intentionally throughout the process of teaching and learning to ensure that it contributes actively as opposed to integration as an afterthought.

Hence, in a context where technology is used purposefully, it contributes to driving the curriculum. The most crucial facet of adopting technology within the classroom relates to the ways in which students incorporate it into their learning process. For instance, exploring e-learning integration in classroom-based teaching in an Omani college, Tanveer (2011) found that e-learning not only helped the learners take charge of their own learning, provided engagement in diverse activities and motivated the learners but also allowed shy learners to interact more confidently in the class and enabled students to develop self-regulation in regard to their learning management.

In the Taiwan context, Wu et al. (2011, p.118) used surveys, Exploratory Factor Analysis and Structural Equation Modelling to investigate how enabling EFL learners to experience authentic EFL interactions with native speakers of English via videoconferencing affected the former's 'motivation, confidence and ability'. The findings of Wu et al.'s study (2011, p.118) suggest that the integration of videoconferencing for language practice was beneficial to the students as it enabled them to apply their developing language skills more comfortably, develop confidence in what had been learnt and mobilised them 'to make global, cross-cultural connections'.

Progressively, students become more confident using different technology resources for EFL learning in different environments and contexts. An example is evidenced by the research of Nunan, (1999), who researched the use of interactive visual aids in EFL classrooms, which favoured students usually shy of making presentations.

At the most basic level, audio-visual (AV) tools can offer a significant advantage for e-EFL students, allowing them to hear native speakers converse naturally in English (Hayati & Mohmedi, 2011). For students in countries such as the KSA where there may be relatively little exposure to native English speakers, this can be an invaluable resource. More recent technological developments and advances in voice recognition software can also help students to practice their pronunciation and receive feedback on their progress in real time (Golonka et al, 2014). Although e-learning technologies have been widely integrated into HE settings within the Saudi e-EFL context, as the following review of existing research shows, there appears to be limited systematic research on available ICT technologies and their implementation as well as their impact on the learners' e-EFL attainment.

2.3.3   Empirical Research on KSA E-learning

A survey of research on e-learning in the KSA tertiary context shows limited intervention research on the impact of e-learning technology on e-EFL learning. Looking at the available research chronologically, it appears that while there is no consistent or clearly discernible pattern, earlier

studies tend to reflect an occupation with the perceptions of technology for EFL, teacher and learner attitudes towards e-learning, challenges related to technology implementation and the impact of technology application in the EFL classroom. For instance, the studies by Al-Dosari (2011), Matthew and Aldimat (2013), Tess (2013) and Golonka et al (2014) respectively focus on i) teacher and student perceptions of e-learning technologies, ii) learner perceptions of AV aids in the Saudi EFL classroom and iii) technology application in the educational setting.

Research has shown that teacher uptake of e-learning technologies is mediated by variables such as the age of the teachers and its link to their willingness to learn about incorporating e-learning in their instruction. For example, Al-Dosari (2011), collected data from 20 teachers in the Faculty of Languages and Translation, English Department who were involved in blended teaching to English Department students through an Instructor Reflection Survey and from 212 students through a student reflection survey. The aim of the study was to evaluate the 'effectiveness of and preference for, web-based learning as perceived by faculty and students' (Al-Dosari, 2011, p.291). The study found that younger faculty members were more likely to accept and make use of e-learning technologies than older faculty members with more than ten years of work experience. The study also seems to suggest the need for research as exemplified in this thesis to explore not just the e-learning technologies in use within the EFL classroom but also their implementation. Although the learners reported finding explanations of content in online courses more interesting, possibly due to the use of multiple modes in lessons including PowerPoints, chatting as well as online note posting, they felt that e-courses needed to be 'updated in terms of organisation, appearance and content' (Al-Dosari, 2011, p.405). The learners were also less satisfied with assessment and evaluation and felt that these needed to be tailored to the online environment.

Other studies in the KSA tertiary context tended to focus on e-technology uptake and attitudes towards e-technology for EFL learning. In a small-scale study, Matthew and Aldimat (2013) surveyed 15 undergraduate students at Aljouf University in Saudi Arabia to find out about learner use of audio-visual materials integrated with the textbook for the course in the e-EFL classroom. The study found that the use of audio-visual materials was perceived positively by the learners who reported that they found the resources helpful for comprehending complex concepts in the course books. In addition, these materials helped to make the class less monotonous and enabled the learners to develop more 'personal understanding of the areas of learning' (Matthew & Aldimat, 2013, p.89).

Furthermore, research shows the availability of electronic gadgets and smartboards, which can allow the use of AV resources in the e-EFL classroom (Matthew & Aldimat, 2013). A review of social media and communication applications by Tess (2013) indicates that these tools provide opportunities for students to interact, in real time, with native speaking students .This may be achieved through instant messaging or through voice/video chat, and this provides students with authentic situations in which they can practice their language skills. A significant amount of research evidence this as an effective learning strategy; even communicating in informal situations online can significantly improve language skills (Golonka et al., 2014; Tess, 2013).

Other earlier research explores the e-learning integration challenges faced by e-EFL teachers and learners at a Saudi university. For instance, Ja'ashan (2020) surveyed 36 staff members and 261 EFL learners to identify the kind of academic and technological difficulties they faced in their teaching and learning context. This study revealed that teachers faced difficulty in integrating software into instruction, limited time for developing e-content and restricted action to PowerPoint or document project during the class. In regard to technological challenges, the teacher participants reported that they lacked technical support, training, internet access at home as well as adaptive technology. In terms of academic challenges, the students reported not being able to access the course materials, limited time for online exams and limited interaction with their teachers as specific problems. With reference to technological challenges, the study found that students not only lacked technical support, training and internet access at home but also found e-learning software difficult to use. The findings of this study would suggest the need for adequate training for teachers and learners alike in making use of e-learning in their teaching and learning contexts. This is a concern that is explored in the current thesis as it seeks to inquire into the pedagogical paradigm being promoted through e-learning in the Saudi tertiary context.

In some cases, earlier research on technology integration in the Saudi EFL classroom has taken an experimental approach to investigating the impact of computer assisted learning on EFL learner performance. For instance, in one study, Al-Mansour and Al-Shorman (2011) randomly assigned 60 EFL learners at a Saudi university to experimental and control groups of 30 learners each. The learners in the experimental group learnt English with the help of software developed by the researchers which included reading texts, grammatical explanations and vocabulary in (part 1) and exercises related to topics (part 1) in (part 2) over a period of 8 weeks. Statistical analysis of the pre-test/post-test data for both groups of learners showed that the experimental group learners performed better with the help of computer-assisted learning. Whereas in terms of mean score, the learners in both groups had performed similarly on the pre-test (Control: 68.75

% & Experimental: 69.47 %), in a comparison of their post-test scores, the experimental group showed significant improvement (Control: 69.85 % & Experimental: 81.65 %).

Interestingly, a few years on from the studies discussed above, researcher attention finally seems to move on from perceptions and challenges of e-learning for EFL stakeholders to turn towards pedagogy underlying technology integration in the EFL classroom. Drawing upon the Technology, Pedagogy and Content Knowledge Model, Kassem (2018) surveyed 164 Saudi EFL teachers from across the country and interviewed 23 of the participants to investigate the beliefs and practices of teachers in regard to e-learning integrated EFL teaching. The study found that blind application of technology by the EFL teachers detracted from their pedagogical effectiveness, further highlighting the need for developing the technological skills of EFL teachers for better e-learning integration.

However, successive studies show that perceptual research of effectiveness of e-learning platforms and impact of mobile learning technology integration on learners' performance. For example, Alabasi and Alghamdi (2019) investigated the use of social media platforms to facilitate e-EFL learning through surveys of 144 e-EFL students at a Saudi University. Alabasi and Alghamdi (2019, p.129) found that WhatsApp, a popular communication platform for students, was the most widely used communication application deployed by learners for queries and announcements and 'minimum pre-set language learning goals.' The participants reported that they used WhatsApp the most for 'discussing course content and answers to assignments', with most of the learners agreeing as to the usefulness of WhatsApp for improvements in reading, writing, grammar and continuation of learning beyond the e-EFL classroom. In a study that investigated the impact of m-learning on 126 Saudi EFL learners' achievement as well as their perceptions and attitudes towards m-learning, Alkhudair (2020) found not only that m-learning and student achievement were positively correlated but also that the learners viewed the integration of m-learning as an educational tool positively.

Moving away from research on e-learning in the classroom, some researchers in the Saudi context turn their attention to whether or not selected websites for e-learning integrated EFL learning (British council, University of Cambridge, and AMIDEAST website) comply with Common European Framework of Reference for Languages (CEFR) standards (Al Fadda & Afzaal, 2020, p.174).

In the wake of the global COVID pandemic, the focus of researchers examining e-learning in Saudi EFL context has shifted to teacher and student experiences and perceptions of online learning following campus closures and the increasing dependence on digital learning. For

instance, a survey study was carried out by Mahyoob (2020) to investigate the online learning experiences of 184 Saudi EFL learners. Mahyoob (2020) found that the participants were dissatisfied with online learning and reported a number of communication as well as technical challenges. However, other similar studies report different results. For example, examining the impact of virtual classes on 90 female Saudi university EFL learners, Alahmadi and Alraddadi (2020) find that virtual learning positively impacts learners' experiences in L2 learning. It encourages learners' interaction with the instructors and promotes learner-to-learner interaction and collaboration. The findings of this study indicate that virtual classrooms and learning environments are effective and lead to better learning outcomes than traditional classrooms. A small-scale questionnaire study in the university setting by Khalawi and Halabi (2020) examined how virtual EFL classes were perceived by Saudi Foundation year 20 teachers and 22 learners. Khalawi and Halabi (2020) found that most of the participants viewed the virtual EFL classes positively and perceived these to augment learner autonomy. While of some relevance to the current study, the research by Khalawi and Halebi does not focus upon learner autonomy and e-learning from a heutagogic lens. In a questionnaire study, Oraif and Elyas (2021) investigated the experiences of 379 high school EFL learners studying general English via an online school platform. The findings of this study also align with the positive outcomes reported in the university setting by Alahmadi and Alraddadi (2020) and Khalawi and Halabi discussed above.

In a more recent study, Hashmi et al. (2021) administered questionnaires to 265 Saudi EFL teachers in order to learn about the pedagogical challenges faced by them in delivering online EFL learning. While this study investigates the challenges related to pedagogy of e-learning, it canvasses the opinions of the EFL teachers alone and does not probe the link between pedagogy and students' heutagogical learning. The analysis of the data showed that the study participants valued e-learning as a teaching tool, despite the challenge of delivering online learning. Additionally, the EFL teachers desired more training and professional development in learning to teach EFL online.

The studies reviewed above seem to suggest that while e-learning supports e-EFL attainment (Al-Mansour & Al-Shorman, 2011) and that teachers and learners tend to view e-learning favourably (Alabasi & Alghamdi, 2019; Matthew & Aldimat, 2013), the stakeholders face technological and academic challenges related to e-learning (Al-Dosari, 2011; Ja'ashan, 2020). In recent times, the clearest trend in e-learning and EFL teaching in the KSA context comprises researcher attention to the perceptions and challenges of and impact on EFL learning due to the switchover to online learning (for example, Hashmi et al., 2021; Khalawi & Halabi, 2020; Mahyoob, 2020; Oraif & Elyas,

2021). However, these studies are limited in terms of their small sample size (e.g., Al-Mansour & Al-Shorman, 2011; Khalawi & Halabi, 2020; Matthew & Aldimat, 2013), e-EFL teacher/learner attitudes towards e-learning (Al-Dosari, 2011), and their focus on types of e-learning used and their impact (Alabasi & Alghamdi, 2019; Matthew & Aldimat, 2013) or on COVID and online EFL learning. Studies which look at the pedagogical aspect of e-learning (e.g., Hashmi et al., 2021; Kassem, 2018) are limited and not focused on whether or not pedagogy is appropriate to promoting learner-centred EFL learning via suitable deployment of e-learning tools.

Extending this small body of research, the present study is distinguishable from the reviewed research because it addresses not only what ICT technologies and e-learning strategies have been provided to EFL learners and how these have been adopted in the tertiary Saudi EFL classroom but also how the use of digital technology has impacted learning paradigms in the study context.

2.4 Learning Paradigms for E-learning

2.4.1 Overview of Theories

There are many theorisations of how learning takes place, and these theories are organised into different paradigms of learning. With reference to theories of adult learning, Taylor and Hamdy (2013) categorise paradigms in the following way, where categorisation reflects a chronological development:

- instrumental learning theories premised on behaviourism and cognitivism foregrounding individual experience
- learner-centred humanistic theories of learning focusing on the development of self-directed individuals
- transformative learning theory promoting critical reflection on the part of learners
- social theories of learning premised on context and community
- motivational models, such as the self-determination theory, which are organised around motivation and reflection
- reflective models based on cycles of reflection, action, and change

The above categorisations represent a useful heuristic for understanding how learning theories have evolved in the chronological order presented. In particular, they make it possible to trace the identifiably instrumentalist antecedents of the prevalent and problematic teacher-centred and exam-driven pedagogy prevalent in Saudi e-EFL setting, which is at odds with the learning needs

of the contemporary learners in a learning environment shaped by e-learning technologies. Indeed, it is these concerns which underpin educational reforms directed at reforming pedagogy in the Saudi classroom by introducing learner-centred teaching approaches to replace traditional hierarchical and prescriptive approaches characteristic of the Saudi educational system (Elyas & Picard, 2010). The reforms are aimed at transforming pedagogy so that Saudi students adopt a more active role in their own learning, particularly in the context of e-EFL. The next section presents another lens through which to understand learning paradigms in order to progress to a discussion of the heutagogical approach and its relevance to the Saudi tertiary e-EFL setting.

2.4.2   Pedagogy

Another useful frame for thinking about learning paradigms is to understand them by Halupa's (2015, p.1) categorisations: 'pedagogy is faculty-centred education, andragogy is learner-centred education, and heutagogy is self-directed and transformative.'

The concept of pedagogy has been previously defined as the methods and practices used by the teacher (Zembylas, 2018). However, pedagogy is a more complex process, as it focuses on how teachers approach their individual teaching style, how they give feedback to their students, how they assess their students, and what theories they rely on (Zembylas, 2018). Teachers can approach their teaching style in different ways, especially as they start to progress within their own field (Giroux, 2020). However, their teaching style is largely dependent on their beliefs on how students learn in the first place.

Historically, there were several key pedagogical theories on how students learn. One of the most prominent ones is Jean Piaget's theory of cognitive development. Piaget argued that child's development was as biological as it was intellectual (McLeod, 2007). According to Piaget, child development occurred in four different chronological stages, that is the sensorimotor stage (learning through senses and movement as a baby), preoperational stage (engaging in physical and imaginative play from ages 2-7), concrete operational stage (becoming aware of logic, others' perspectives, and problem-solving from ages 7-11), and formal operational stage (understanding abstract thought and metacognition from ages 11-16).

Howard Gardner's theory of multiple intelligences was another key pedagogical theory. Gardner (2010) argued that IQ on its own was too narrow to fully understand how intelligence developed. He believed that there were eight different types of intelligences that helped the learner develop. Musical-rhythmic intelligence referred to sensitivity to sound and rhythm. Visual-spatial intelligence referred to being able to visualise different objects in different formats. Verbal-

linguistic intelligence referred to words, reading, and writing. Logical-mathematical intelligence referred to problem-solving skills and reasoning. Bodily-kinaesthetic intelligence referred to body awareness and motion. Interpersonal intelligence referred to the ability to emphasise with others' motivations and emotions, while intrapersonal intelligence referred to one's ability to understand themselves. Last, naturalistic intelligence referred to knowledge and understanding about plans and nature.

Third key theory is Carol Dweck's Mindset/Implicit theory of intelligence. Dweck (2017) argued that all learners were malleable and adaptable to change. She believed that all learners were capable of growth and greatness through hard work. Dweck (2017) believed that students with a fixed mindset were more likely to plateau and stop progressing. Although changing to a student of growth and greatness is likely to be a slow process, Dweck (2017) argued that it was possible with the right mindset and attitude. This study forms basis for the heutagogical approach to learning, where students are taught to be autonomous and self-driven in their learning.

The last key theorist on pedagogy is David H. Rose, who founded CAST (Center for Applied Special Technology). Rose's main goal was to improve education for all learners through the use of technology (Rose et al., 2005). He aimed to offer students multiple means of expression as an alternative to what they know already, multiple means of engagement to tap into students' interests and motivations, and multiple means of representations as a way of showing students new ways of acquiring knowledge (Rose et al., 2005). Rose argued that different parts of the brain were responsible for different components of learning. For instance, recognition networks are responsible for how information is gathered and categorised, strategic networks are responsible for tasks are performed through problem solving, and affective networks are responsible for how students remain motivated and excited for learning (Rose et al., 2005). This theory forms a foundation for this current study, which aims to explore how e-learning tools and technology can be used in the Saudi context to help learners reach their highest potential in language learning.

According to Halupa (2015), pedagogy has been shaped by cognitivism, constructionism, as well as behaviourism. Halupa (2015) highlights that with its focus on how learners' brains acquire and process information, cognitive learning theory ranges from a focus on learning styles (Kolb, 1984), the VARK Model (Fleming & Mills, 1992) to multiple intelligences (Gardner, 1985). Halupa (2015) explains that constructionism is based on the idea that teachers facilitate learners to undertake critical thinking and this foregrounds learner-centred learning in accordance with ideas propounded by theorists such as Dewey, Gardner, Vygotsky, and Rogers. A psychological

approach, behaviourism takes the view that learning can be induced in response to stimuli (Halupa, 2015).

2.4.3   Andragogy

Andragogy was introduced to the learning community by Knowles (1970), who based his theory, or concept as he preferred to think of it, on the assumptions that adults direct their own learning, bring considerable experience into the learning setting, are prepared to learn, exhibit internal motivation, and desire learning based on problem-solving. Knowles' (1980 as cited in Halupa, 2015) seven-step process for promoting andragogy spans i) developing a cooperative learning environment, ii) involving students in goal-setting, iii) diagnosing student needs as well as interests, iv) helping them formulate objectives based on what they want or need to learn, v) designing sequenced learning experiences to achieve these objectives, vi) fulfilling objectives with materials/resources, and vii) evaluating not just the quality of what is learnt but also its impact on learning in the future. Although Knowles (1980 as cited in Halupa, 2015) originally distinguished andragogy from pedagogy by observing that the more mature learners were, the more their tendency towards andragogical learning, later he presented pedagogy and andragogy as being on a continuum, rather than being age bound approaches to learning.

Observing that 'whether the underlying premise [of the learning experience] is pedagogical or andragogical, digital literacy is key in today's educational process,' Halupa (2015, Andragogy section, para 6) notes that in this era of digital literacy, learners need to move away from teacher-focused teaching or learner-focused assessments and to develop 'skillsets in digital literacy which enable them to adapt knowledge to form new concepts from both a personal and experiential sense.' This is the crux of what is called heutagogical learning, which is discussed in section 2.6.

2.5   Imperatives of E-learning and Existing Saudi E-EFL Classroom Pedagogy

2.5.1   Challenges and Benefits

According to Gilgen (2005), the design of a critical pedagogy is instrumental in facilitating the process of effectively teaching foreign language students. Through leveraging on computer-assisted language learning, the students can experience new learning opportunities. Reporting on the integration of mobile learning at a US university, Gilgen (2005) established a positive correlation between the use of technology by tutors and the overall improvement in performance. As 'trying to measure actual performance skills would require more resources than [they] had', Gilgen (2005, p.33) used web surveys and focus groups to ascertain 'student satisfaction with

access to learning materials, and faculty satisfaction with delivery of materials'. The first survey examined student attitudes towards the use of technology, whereas the second one carried out by Gilgen (2005) consisted of an after-use questionnaire. Of the 667 students enrolled learners, 463 students took part in the first survey, while 360 students participated in the second one (Gilgen, 2005, p.34).

Similarly, it was also determined that the use of websites during the process of teaching elicited more interest from learners, hence proving more effective in terms of student satisfaction with technology supported learning. This example study shows how in the context of an EFL class with computer-based learning, the main role of the teacher is to act as a facilitator, in contrast to the teacher-centred approaches adopted by most Saudi e-EFL teachers (Picard, 2018).

Another study by Solis (2009), shows that technology can enhance teaching and learning for any course and indeed, in the context of EFL and ESOL (English for Speakers of Other Languages) learning, technology is used to promote proficiency among English language learners . Technology allows a bipartisan approach to learning (teacher facilitated but learner-centred) with students needing to adapt learning processes to align with technology use .Teachers must, therefore, adapt their instructions to leverage on the available technological resources .Rao (2012) points out that in the classroom, there are infinite uses for computers and new technologies. However, in instances where teachers lack the ability to introduce these resources to the classroom and make it work, this potential cannot be realised.

Exploring e-learning integration challenges faced by e-EFL teachers and learners at a Saudi university, Ja'ashan (2020) surveyed 36 staff members and 261 EFL learners to identify the kind of academic and technological difficulties they faced in their teaching and learning context. This study revealed that teachers faced difficulty in integrating software into instruction, limited time for developing e-content and restricted action to PowerPoint or document project during the class. In regard to technological challenges, the teacher participants reported that they lacked technical support, training, internet access at home as well as adaptive technology. In terms of academic challenges, the students reported not being able to access the course materials, limited time for online exams and limited interaction with their teachers as specific problems. With reference to technological challenges, the study found that students not only lacked technical support, training and internet access at home but also found e-learning software difficult to use. The findings of this study would suggest the need for adequate training for teachers and learners alike in making use of e-learning in their teaching and learning contexts. This is a concern that is explored in the

current thesis as it seeks to inquire into the pedagogical paradigm being promoted through e-learning in the Saudi tertiary context.

There is a significant amount of literature that explores digital technologies EFL learning, and the extent to which they improve learning outcomes. Other research, however, has concentrated on the implications of this broader social and cultural shift for classroom pedagogy, pointing to the ways in which digital technologies offer opportunities for greater learner autonomy and so may improve or facilitate learner-centred pedagogy (Soliman, 2014).

The rapidly changing nature of technological development and the implications for pedagogy of the introduction of digital technologies have not yet been fully understood. There is a need, therefore, for further research that examines the way in which these technological changes are impacting upon pedagogy in the e-EFL classroom. E-learning implementation in the Saudi EFL context is not unproblematic and two of the significant problems related to the topic of this thesis pertain to the impact of teacher knowledge on technology adoption and the challenges faced by teachers in shifting to a learner-centred pedagogy, which are discussed in the following sections.

2.5.2   *Lack of Teacher Knowledge and Training*

2.5.2.1   **Technology.**

A major constraint in the adoption of technology relates to the lack of adequate knowledge of teachers about using the technological component. There is a lack of appropriate pedagogical knowledge to deploy e-learning effectively in e-EFL instruction; if they have not had access to training, teachers often prefer to stick to conventional teacher-centred approaches (Picard, 2018). Teachers' knowledge about and familiarity with technology are perceived as profoundly low, which negatively impacts on the learning process and the respective outcome. With the integration of educational technology, teachers need to be more creative and adopt modernised ways of working with technological resources within the classroom, since the technology only represents a tool (Rao, 2012).

Consequently, teachers need to understand that technology is a tool, through which students can expand their language practice in a variety of environments and not only within the class context . Teachers need to establish a trade-off between using technology and offering instructions. For instance, they need to balance teacher-fronted e-EFL instruction with promoting learners' capacity to use available e-learning technologies for extending their e-EFL learning in and beyond the classroom. This implies that the teachers must be well-trained to leverage on technology in the

most effective ways. Teachers, therefore, need to be well trained on the use of technology before applying the skills and knowledge within the classroom context. This contributes towards improving technological skills and the frequency with which teachers use technology in teaching . Koh and Frick (2009) assert that when teachers undergo educational technology courses aimed at improving their use of technology skills for delivering the curriculum, there is a general improvement in teacher self-efficacy. Moreover, where teachers can effectively use technology in class, there is a bridging of the generational gap; teachers are perceived as part of learners' daily lives.

2.5.2.2 Challenges to Teacher-centred Pedagogy.

The proliferation of digital technologies geared towards the learning and teaching of language has significantly shaped the educational environment. These technologies have progressively become more diverse in the modes of implementation within the classroom context throughout the world. This has inspired more research into the value of technology in the process of education. A key concern, however, relates to effective use of the available digital technologies (Sang et al, 2010). A debate continues on the use of digital technologies and the extent to which they contribute to the development of pedagogy. Digital technologies often result in teachers introspecting on their roles and actions in the delivery of education. As a result, most research on pedagogy has focused on evaluating the mechanism through which teachers can work with new methodologies oriented towards technology use in education.

In the context of foreign language learning, technology contributes significantly to improving efficiency and effectiveness of the teaching and learning experience. As a result, more teachers and instructors have received training to effectively implement technological resources; these initiatives are designed to advance the agenda of creating integrated and interactive classes (Al-Showaye, 2002). Consequently, in the process of integrating technology within e-EFL classrooms, teachers may leverage on inherent knowledge possessed by students, which contributes to creating a more participatory learning experience. The potential advantages of e-learning for language purposes are numerous for the KSA. One advantage that is reported is a reduction in learning time. Reports suggest that e-learning is at least 25% faster than class-based learning. It is also argued that e-learning promotes autonomy and independent learning (Alenezi et al., 2010).

Communication technologies have been progressively implemented, which has contributed significantly to shaping education in the KSA. However, the introduction of ICT within the education sector has often been faced with challenges (Koh & Frick, 2009). Picard (2018, p. 167-

168) comments that within the Arab e-EFL context, numerous studies have shown that teachers struggle to successfully integrate ICT in the e-EFL classroom due to 'the dominance of textbook-driven pedagogy and national examinations.' Without a shift to learner-centred pedagogy, teachers may find it difficult to ensure learner enjoyment in e-learning, and need to deal with computer anxiety, promote computer self-efficacy and ensure a quality internet experience to positively influence students' intention to use e-learning (Alenezi et al., 2010).

Teachers play a vital role in the delivery of technology and e-learning experiences among EFL students. These roles and professional activities are well-defined by the developed professional standards, related to the general competencies teachers need to master for ICT driven education: knowledge of learning activities for which ICT can be adopted; knowledge and skills to use both ICT hardware and software; knowledge of the pedagogical-didactical facets of ICT (Hermes & King, 2013). This includes the integration of concepts such as blended and extended classrooms. Blended classroom activities use innovative ways to augment learning through technology. According to Ferlazzo (2020, p.2) blended learning integrates not only 'face-to-face instruction techniques such as direct instruction or lecture, group discussions, and small-group work' but also uses 'technology to provide in-class online learning that students can do at home provided they have access to necessary technology'. On the other hand, extended classrooms provide a platform for students to engage with material beyond the regular class period. It may be understood 'as an integrated platform of technologies, spaces, services and techniques designed to sustain and amplify the value of student-teacher and student-student interactions' (O'Toole, 2020, p.1). Consequently, education technology facilitates the coverage of all aspects of the curriculum despite the limited scope of time available within the formal education schedules. These are considered the key skills for integration of ICT technology in classroom learning. This is particularly significant now given the acceleration of e-learning in COVID-affected countries wherein online learning has now become the norm for most of the academic year at all levels of education.

As a result, for e-EFL teaching, it is essential that the teachers should have adequate knowledge of how teaching and learning are influenced by the adoption of technology and the role of technology in supporting pedagogical goal. Teachers contribute to a computer-equipped e-EFL classroom through delivering the content for the students in addition to facilitating communication with and between students (Al-Showaye, 2002). However, the use of these emerging technologies presents many technical problems to teachers who are more accustomed to traditional forms of teaching. A wide range of Web 2.0 tools has been adopted with e-learning to

foster effective English language learning. Technology has delivered both low tech and advanced platforms as tools for restructuring the language learning experience. Consequently, e-learning serves to facilitate a system of activities which reinforce the e-EFL student's cognitive domain(Al-Showaye, 2002).

2.6   Theoretical Foundations for the Research

In the context of this study, there are two key ideas that can help to understand factors which influence Saudi EFL learning when it is mediated by technology. These ideas include heutagogy and self-efficacy.

2.6.1   Heutagogy and Self-determined Learning

Described by Hase and Kenyon (2013, p.1) as a 'form of self-determined learning' premised on the ideas of humanism and constructivism, heutagogy is undergirded by the concept of double-loop learning advanced by Argyris and Schon (1974). According to Argyis (2002), learning can be understood as detecting and correcting an error, with single loop learning occurring when errors are fixed without changing the governing values or underlying assumptions; double-loop learning occurs when the governing values as well as the actions are modified. Halupa (2015) provides a useful example to demonstrate both kinds of learning: if a student gets an answer wrong for a math problem and works out different strategies to arrive at the right answer, this is single loop learning because the student is only dealing with the symptom of the problem. On the other hand, if the student examines the governing variables or the processes or norms underlying the situation and asks for help from someone else, double-loop learning is likely to happen.

Hase and Kenyon (2000, p.2) suggest that heutagogy is a non-linear process that not only includes 'capability, action learning processes such as reflection, environmental scanning…and valuing experience and interaction with others' but also transcends problem-solving to aim for proactivity. The essence of the heutagogical approach is that it enables 'learners to decide upon what to learn and how to learn and therefore the control of the learning process is on the learner and the role of the teacher becomes that of a navigator' (Abraham & Komattil, 2017, p.295).

2.6.2   Suitability of Heutagogical Approach to E-learning

Blaschke (2012) observes that conventional learning paradigms, whether pedagogy or andragogy, are inadequate to the task of preparing learners for the contemporary workplace, which calls for a learning approach, characterised by self-direction and self-determination:

learners must be able to undertake a cycle of action and reflection and understand their own learning processes. Web 2.0 technologies (which allow users to create, share, work together and interact) align well with the heutagogical approach that promotes 'learner-generated content and learner self-directedness in information discovery and in defining the learning path' Blaschke (2012, p.2). A heutagogical approach is responsive to developments within tertiary education as it enables learners to develop not just their competencies but also their capabilities and capacities to learn (Blaschke, 2012). Hence, in the context of the Saudi e-EFL university learners, the adoption of a heutagogical approach may help students learn more effectively by promoting self-efficacy and self-determination in their learning. As theories by Dweck and Rose highlighted, students' engagement, motivation, and desire for greatness are ultimately responsible for shaping the learners' intelligence. Self-efficacy and self-determination is especially important for students undertaking distance learning with the use of technology. As a result, heutagogical approach to learning forms an important theory for online learning and distance learning that need to be considered as part of this study.

2.6.3   Self-efficacy in E-learning/Online Learning

According to Bandura's (1977) self-efficacy theory, the construct is principally derived from i) enactive mastery experiences, ii) vicarious experience, iii) verbal persuasion and iv) physiological and affective states. These are briefly described here for the purpose of background information, although they do not form the direct focus of the current study. Enactive mastery experiences are 'the most influential source of efficacy information' as they provide the best evidence of whether individuals 'can muster whatever it takes to succeed' (Bandura, 1997, p.80). However, even if past tasks have been accomplished successfully, other factors such as how difficult the task was and the context of the task contribute significantly to forming self-efficacy beliefs (Hodges, 2008). Observing suitable role models performing the task (vicarious experience) can also help individuals to develop self-efficacy by transcending the role models' performance (Hodges, 2008), although the development of self-efficacy beliefs can depend on the abilities of the role models being compared (Wood, 1989). Verbal persuasion, in the form of constructive feedback by credible persuaders, aimed at helping learners measure task accomplishment, in terms of self-improvement (rather than performing better than others) can also contribute to positive self-efficacy beliefs (Hodges, 2008). According to Hodges (2008, p.16), 'physiological and emotional feedback [from] stress, emotion, mood, pain, and fatigue' can also aid individuals in evaluating their physiological and affective states.

Hodges (2008) suggests that sources of self-efficacy can be integrated in an online learning environment through a number of strategies, for instance i) course design with gradated material sequencing (enactive mastery), ii) use of pedagogical agents for learning, which are embedded in learning applications (vicarious experience) and, iii) feedback in the form of email notes or audio notes (verbal persuasion). However, in the context of this study, the focus was on how EFL learners perceive e-learning and regulate it rather than on the four sources of self-efficacy detailed above, although the interdependence of self-efficacy with self-regulation was taken into account.

According to various researchers (Bandura, 1997; Martin & Rimm-Kaufman, 2015; Panadero et al., 2017) within educational settings, self-perceived self-efficacy by learners may determine the selected tasks, the task performance level, effort exerted in performing the tasks and perseverance towards task accomplishment. With the uptake of e-learning technologies and subsequent development as e-EFL learners being a central concern of this thesis, self-efficacy is an important construct for understanding how learners in the study context build upon perceptions of past performances to advance in their learning.

Explaining the relationship between learner self-efficacy and self-regulation, Gaskill and Hoy (2002, p.194-195) note that learners' level of self-efficacy offers a prediction of how they will deploy 'cognitive strategies and self-regulation' which in turn forecasts their academic attainment, thus establishing a relationship of reciprocity. They elaborate that 'as students increase their use of learning strategies and their academic performance improves [and] their academic self-efficacy increases'. Given that self-regulated learning and self-efficacy judgments require a similar series of cognitive and metacognitive processes (self-observation, self-judgment, and self-reaction), Gaskill and Hoy (2002, p.195) observe that when self-regulated learners experience satisfaction with their progress towards a goal, they become more self-efficacious and motivated. In sum, when learners are taught to pay deliberate attention to their behaviour, this not only informs them but also motivates them, with training also augmenting their capacity to 'regulate their own strategies (Gaskill & Hoy 2002, p.195). In Figure 3, I present the factors that influence Saudi e-EFL teachers and students and Table 3 summaries the key component of the framework.

Table 3

Key Components of the Study's Framework

Key components	Sub-element	Definition	Reference	Factors
Heutagogy	Learner-centred determined Capability	'The role of human agency in learning is a fundamental principle. The learner is at the centre of all heutagogic practice. The learner is self-motivated and autonomous and is primarily responsible for deciding what will be learned and how it will be learned and assessed'.	Blaschke, L. M., & Hase, S. (2016). Heutagogy: A holistic framework for creating twenty-first-century self-determined learners. In *The future of ubiquitous learning* (p.25-40). Springer, Berlin, Heidelberg, p.28	Goal Commitment Regulation Students' perceptions and attitudes toward e-learning
	Self-reflection/meta-cognition	'Within heutagogy, it is essential that reflection occurs in a holistic way. This translates to the learner reflecting not only what she or he has learned, but also the way in which it has been learned—and understanding how it is learned (metacognition)'.		Metacognitive Regulation
	Double-loop learning	'Double-loop learning requires that learners are both psychologically and behaviourally engaged. They reflect on not only what they		Cultural Regulation Social Connection Regulation

Key components	Sub-element	Definition	Reference	Factors
		have learned, but also the way in which this new knowledge and the path to learning have influenced their values and belief system'.		
	Non-linear learning	'As learning is self-determined, the path to learning is defined by the learner and is not established by the teacher. As a result of learners choosing their own path, learning happens in a nonlinear format'.		Resource Regulation
Self-efficacy	Affective regulation	Emotional conditions, as high levels of anxiety or depression, can adversely affect the efficacy beliefs.		Affective Regulation

2.6.4   *Attitudes and Perceptions Towards E-learning*

The study also considers the role of student perceptions towards e-learning as an indicator of heutagogical use of ICT tools to further EFL learning. Marzano et al. (1992) observe that attitudes and perceptions have a significant influence on learning and that learning is enhanced when our attitudes and perceptions are positive; if they are negative, our learning suffers. Therefore, in the context of this study, it is also important to look at the constructs of attitude and perception in relation to e-learning in the EFL classroom at Saudi universities. Ankiewicz (2018) highlights that attitude is a wide-ranging concept with a definitional and interpretative multiplicity.

However, as characterised by the work of Breckler (1984), Fishbein and Ajzen (1973), and Ostrom (1969), a conventional approach to attitudes lays emphasis on their tri-dimensional nature: cognition, affect, and behaviour. Therefore, when considering attitude towards technology or e-

learning, an attitude would comprise what the person believes about it (cognitive) and his or her emotional responses (affective), which result in the decision to adopt a certain behaviour, for instance to make use of e-learning for study purposes and to extend one's knowledge and capability. In summary, 'attitudes are related to beliefs, opinions, perceptions, and concepts' (Kim, 2000, p.16).

While perception is closely connected to attitudes, it can be defined as the process whereby 'the person interprets the stimuli into something meaningful to him or her based on prior experiences' although 'what an individual interprets or perceives may be substantially different from reality' (Pickens, 2005, p.52). A key difference between perception and attitude is that (contrary to perceptions) while 'the feeling and belief components of attitudes are internal to a person, we can view a person's attitude from his or her resulting behaviour' (Pickens, 2005, p.45). Further, attitudes are evaluative in that they are defined as a 'psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour' (Eagly & Chaiken, 1993, p.1). In so far as the current study is concerned, it is important to look at attitudes because one of the challenges faced in bringing in innovations within learning is resistance to change. Thus, in the context of this study, the exploration of Arab e-EFL learners' and teachers' attitudes towards and perceptions of e-learning technologies in the educational setting was viewed as providing valuable insights for addressing the research questions framing this study.

Based on insights from Harris and Graham (1999), Schraw et al. (2006) and Shunk (1996), self-regulated learning can be understood as learners' ability to apprehend and regulate their learning environment by setting goals, monitoring and instructing themselves and by undertaking self-reinforcement. However, as Zimmerman et al. (1996) point out, rather than being a mental ability or performative skill, self-regulation may be considered a self-led process by means of which mental abilities transform into skills. It may also be understood as the processual and developmental formation of learning habits (Butler, 2002) which is fostered by guided practice (Paris & Paris, 2001). Within the instrument used to collect data from the Saudi e-EFL learners in this study, there was a focus on the different kinds of regulation mediated by e-learning which progress the participants towards heutagogical learners. These are discussed in detail below. Drawing upon the theories discussed above, this study considered the following factors in examining Saudi EFL learners' perceptions and regulation of their EFL learning via e-learning:

2.7 Factors of Influence on E-EFL Students' Self-determined Learning via E-learning

The factors influencing EFL learners' self-determined learning through e-learning tools were adopted from the questionnaire used in a study by Çelik et al. (2012) which investigated EFL learners' use of ICT for self-regulated learning. These questionnaire items were used within the current study to examine students' use and experience of e-learning technologies and self-efficacy with regard to six main factors: goal commitment, affective, social connection, resource, metacognitive, and culture regulation.

Figure 3 (Own Diagram)

Factors of Influence on KSA E-EFL Teaching and Learning
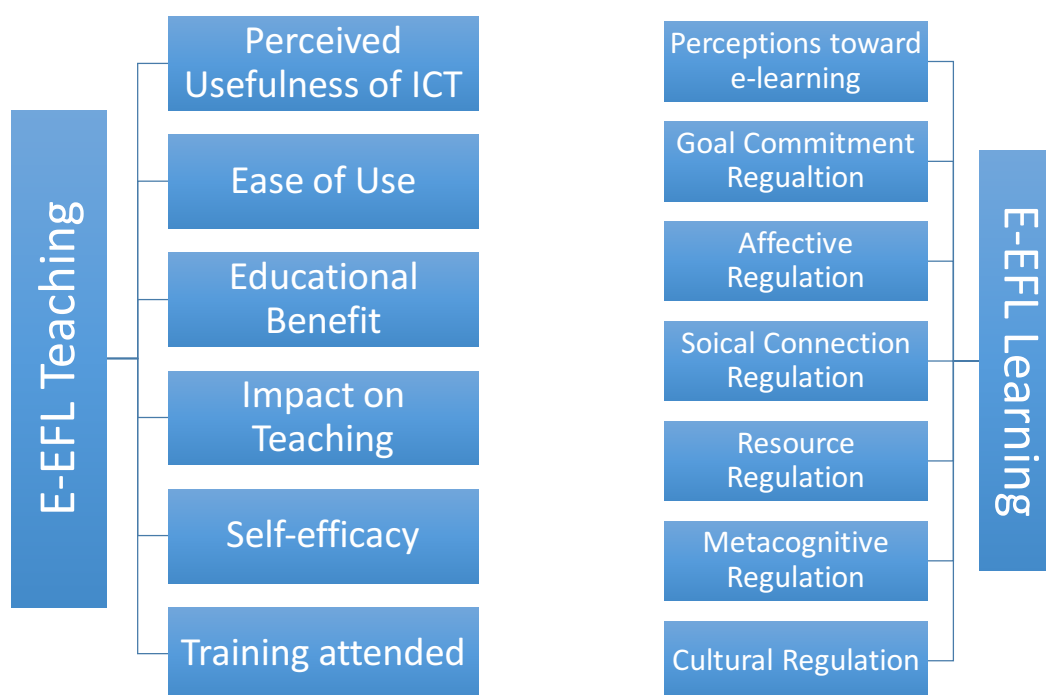
2.7.1 Students' Perceptions Toward E-Learning

It has been argued that the development and implementation of effective e-learning depends on learner perceptions of e-learning **(**Žuvic-Butorac et al., 2001). Based on this review of research on online learner participation, Hrastinski (2008) concluded that participation and learning were closely connected and that learners could only fully take advantage of these technologies if their experience of participation is satisfactory. Therefore, in view of the above, understanding learners' perceptions towards e-learning becomes important not just for ensuring the uptake of e-learning but also for the success of their learning goals.

2.7.2   Goal Commitment Regulation

Citing Locke and Latham's (1990) observations on goal theory, Langevin and Mendoza (2014, p.43) note that 'specific, difficult-but-attainable goals lead to stronger individual performance than ill-defined and easy goals'. However, Locke and Latham (2002, p.707) point out that the 'goal–performance relationship is strongest when people are committed to their goals' and 'when the goals are difficult' because the latter entail greater effort on the part of the individuals. Indeed, as Locke et al. (1988, p.23) have argued earlier, the goal-setting is unlikely to work unless commitment to goal is in evidence. Such commitment to the goal is materialised through a process of self-regulation that involves individuals i) preparing themselves for transformation, ii) delineating and assigning a goal, iii) generating and implementing plans to execute the goals and iv) monitoring the progress made in attaining the set goal (Cavadel et al., 2018, p.2).

2.7.3   Affective Regulation

Affective regulation may be understood as 'the mechanism by which our emotions, moods, feelings, and their expressions are modulated in pursuit of 'an affective equilibrium or homeostasis' (Taipale, 2016, p.889). Within the regulatory processes, Ben-Eliyahu and Linnebrink-Garcia (2015, p.16) suggest that emotional, behavioural and cognitive self-regulation are critical, respectively influencing as they do 'emotions, behaviours, and cognitions'. They suggest that it is such affective regulation which allows for the positive reframing of a situation and suppression of negative emotions encountered in the pursuit of set goals. In sum, affective regulation which comprises and important element of self-regulated learning helps not only to regulate emotions towards but also to make learning more attractive (Rahimi & Bigdeli, 2014).

2.7.4   Social Connection Regulation

Rahimi and Bigdeli (2014, p.6) highlight that social interactions play a pivotal role in developing learners into self-regulated learners, adding that self-regulated learning must be understood not only as 'an individual construct but also a social process with emphasis on the role of social environment and interaction in the SRL [Self-Regulated Learning] development'. Hence, e-learning technologies can help EFL learners to make use of ICTs to interact and collaborate not only with their peers but also with learners from across the globe (Rahimi & Bigdeli, 2014, p.6). This is because e-learning tools position learners in 'a system of activities and interactions' by

means of which they can deploy 'materials and tools to interact with each other and their surroundings' (Rahimi & Bigdeli, 2014, p.6).

2.7.5   Resource Regulation

By creating and furnishing learners with the opportunities to learn and communicate in the target language, e-learning enables learners to expand their learning experience beyond the physical confines of their EFL classrooms (Rahimi & Bigdeli, 2014). Through e-learning tools, EFL learners can seek more interesting materials and experiences to learn the target language which are aligned to their requirements and interests as language learners (Rahimi & Bigdeli, 2014).

2.7.6   Metacognitive Regulation

According to Wang et al. (1990), learners who have the capacity to reflect and ponder on their own thinking are better placed to attain their learning goals in comparison with peers who lack such metacognition. Hence, metacognition may be considered as a key element of education strongly correlated with attainment (Wang et al., 1990). Drawing upon Sandi-Urena et al. (2011), Stanton et al. (2015, p.2) point out that 'while metacognitive knowledge includes the ability to identify what we do and do not know, metacognitive regulation involves the actions we take in order to learn'. Self-regulated students demonstrating metacognitive regulation have the capacity to comprehend what a task entails, delineate personal capacities and deficiencies in regard to the task, come up with a plan for performing the task, to monitor the progress of plan implementation and to change the plan as required (Stanton et al., 2015). These capacities constitute a cycle, wherein 'planning, monitoring, and evaluating [comprise] key metacognitive-regulation skills (Stanton et al., 2015, p.2).

2.7.7   Cultural Regulation

It has been emphasised that there is a strong need to integrate culture into e-EFL learning so that learners can understand 'others' viewpoints', be prepared for 'personal encounters with foreign cultures', and 'put the language into context' (Marcal, 2010, p.1). Paige et al., (2003, p.177) define cultural learning as a 'dynamic, developmental, and ongoing process which engages the learner[s] cognitively, behaviourally, and affectively' and allows them to acquire general and specific cultural 'knowledge, skills, attitudes required for effective communication and interaction with individuals from other cultures'. In view of the above, culture regulation may be understood

as a process whereby learners use a range of e-learning tools 'to seek answers to the questions about the language and culture and to interact with the target culture so that they can understand and appreciate the target culture better' (Rahimi & Bigdeli, 2014, p.7).

2.8   Factors of Influence on E-EFL Teachers' Pedagogical Approach Towards E-learning

In surveying the e-EFL teachers to gain insights into whether or not their use of e-learning promoted learner-centred learning, this study focused on how useful and easy e-EFL teachers perceived e-learning to be and their ICT self-efficacy which shaped how they used the learning technologies and subsequently their pedagogy. In addition, the study investigated e-EFL teachers' perceptions of the benefits of e-learning for the students, the impact of these tools on their teaching and student learning and training for using e-learning tools optimally in their pedagogical context. The factors of influences in this study were adapted from Mahdum et al.s' study (2019).

2.8.1   Perceived Usefulness of ICT

The use of e-learning tools in the classroom is perceived to be central to transforming the role of students from being passive reproducers of knowledge and solitary learners to active participants and creators of knowledge in collaboration with peers, and in turn to transforming teachers into guides and facilitators rather than sole epistemic source in the classroom (UNESCO, 2010). In addition, strengthening communication between teachers and learners (Bingimlas, 2009), e-learning tools enable learners to undertake self-paced contextualised learning without limitations of location (Pearman & Chang, 2010). In sum, e-learning tools can help to promote 'participatory teaching and learning, lifelong learning as well as supporting the much-advocated learner-centred learning in the current educational trend' (Isiyaku et al., 2018, p.339). Against this backdrop, perceptions of e-learning tools play an important role in its success or failure. Davis (1989, p.320) defines perceived usefulness as 'the degree to which a person believes that using a particular system would enhance his or her job performance', whereas Ventkatesh et al. (2003) define it as performance expectancy which indicates the perception of prospective users that using technology would augment their performance of the task at hand. To simplify, according to Blok, van Ingen, de Boer and Slootman (2020, p.2), 'the more potential users think using a technology will improve their work, the more likely they will use it'. In the case of this study, it was important to understand how the e-EFL teachers perceived the usefulness of e-learning as this would

indicate their uptake of the latter and the impact of how useful or not they perceived e-learning to be on teaching pedagogy.

2.8.2 Perceived Ease of Use

In contrast to PU, perceived ease of use is defined as 'the degree to which a person believes that using a particular system would be free of effort' (Davis, 1989, p.320) or effort expectancy which is indicative of how easy users find it to utilise the system (Venkatesh et al., 2003). According to Blok et al. (2020, p.2), PEU signifies that 'the easier people expect an application is to use, the more likely they will use it'. In line with the above, the study also sought to understand how easy the Saudi e-EFL teachers found it to use the e-learning tools available to them. This was important as how easy or difficult they found the e-learning tools available to them would help to explain whether they used the tools for utilitarian purposes or for building learner autonomy and undertaking learner-centred teaching.

2.8.3 Self-efficacy

The construct of self-efficacy is defined by Bandura (1997, p.3) as 'beliefs in one's capabilities to organise and execute the courses of action required to produce given attainments.' Choi (2005) notes that self-efficacy can primarily be understood as a cognitive evaluation of whether or not we are capable enough based on how we have performed in the past to accomplish a prospective task. While incorporating a cognitive element, self-efficacy may be considered a self-evaluation based on governing criteria.

Observing that the skills expected of teachers are in a state of constant flux, Moreira-Fontán et al. (2019, p.63) point out that many of these skills are linked to 'knowledge of new information and communication technologies…and their application in classroom activity'. Defining this concept as teachers' computer self-efficacy (CSE), Scherer and Siddiq (2015, p.48) note that CSE comprises teachers' 'confidence in performing basic and advanced skills in using computers, along with the use of computers for instructional purposes'. Adding to this, Almerich et al. (2016, p.122) offer the notion of ICT pedagogical competence, whereby teachers' ICT competences area made up the subsets of 'technological competences and pedagogical competences' which are 'linked asymmetrically and in such a way that technological competences influence pedagogical competences'. Lund et al. (2014, p.280) define it teachers' ICT self-efficacy as 'professional digital competence' that comprises 'a deep understanding of technology, knowledge of students' learning processes, and an understanding of the specific disciplinary practices and features

characterising individual school subjects'. Teachers' ICT self-efficacy is further described as digital competence for instruction by Instefjord and Munthe (2017). The increasing integration of e-learning tools in the e-EFL setting has created not only an impetus for teachers to develop an in-depth understanding of available learning technologies but also to learn more about the learning process of their students with specific reference to their disciplinary context and e-learning integration. Hence, teachers' ICT self-efficacy was focused upon in the questionnaire as a way to learn more about the influence of this factor on how they used technology to extend their students' learning.

2.8.4   Educational Benefit

According to a UNESCO brief (2021, para 1 & 2) on ICT in education, not only do educational institutions use multiple e-learning 'tools to communicate, create, disseminate, store, and manage information' but also in many cases ICT has become integrated into teaching-learning by means of 'interactive digital whiteboards, using students' own smartphones or other devices for learning during class time'. Dilating upon the benefits of ICT integration in EFL classrooms, Azmi (2017, p.111) notes that e-learning tools not only help to improve but also to optimise the students' acquisition of the target language and to engage and catalyse their creativity. From providing diverse learning environments and increasing the accessibility of the curricular content by all learners, e-learning tools enable learners to develop language skills, interact with peer users of the target language and to learn more about the culture of the target language (Azmi, 2017). ICT tools can also help learners become more autonomous and engaged in inquiry based learning (Azmi, 2017). This factor was investigated in the teacher survey as it would help to understand whether or not teachers had a nuanced understanding of how e-learning tools could benefit Saudi e-EFL learners transform into heutagogical learners.

2.8.5   Impact on Teaching

It is observed that when teachers are digitally proficient and have received training to use ICT, this enables teachers to develop their learners' higher order thinking skills, provide creative and individualised options for students to express their understandings, and leave students better prepared to deal with ongoing technological change in society and the workplace' (UNESCO, 2021, para 1 & 2). It is argued that there is a need to integrate ICTs into teaching and learning as this is not only likely to make educational processes flexible but also to better-equip learners for working autonomously and managing and organising their learning' (Maquilón et al., 2013 as cited

in Mirete et al., 2020, p.4). Including items related to this factor in the teacher questionnaire was important as it would help to identify whether or not participating e-EFL teachers discerned a link between e-learning and teacher and student digital competence which is one of the key learning outcomes.

2.8.6 Training Attended

Training e-EFL teachers to develop professional digital competence is very important for successful learner-centred e-learning to take place. It is argued that if teachers who integrate ICT into their teaching continue to conceive of teaching as comprising the transmission of knowledge and remain focused on content, it is likely that such a technology-integrated but teacher-centred approach will have a negative impact on student learning (Sept, 2004). Relevant training and development is needed to equip e-EFL teachers to deploy e-learning effectively. Research suggests that 'effective use of ICT in class cannot only rely on traditional teacher training courses [which tend to be] understood as a learning set of non-contextualised training contents' (Sánchez-García et al., 2013, p.533). Sánchez-García et al. (2013) suggest that in order to make use of ICT effectively for pedagogical purposes teachers should be supported with in-house mentoring and should be encouraged to collaborate with peers so that their insights are contextualised to their respective settings. Transformations in the learning paradigm and subsequently pedagogy and methodology (accompanied by increasing integration of ICT technologies) has entailed a shift in the roles of teachers and learners (Fitzpatrick & Davies, 2003). Under the new paradigm, teachers must learn to use ICTs so that they can guide and mentor learners and serve as role models for the students (Fitzpatrick & Davies, 2003). The inclusion of this factor in the questionnaire was pivotal to understanding teachers' awareness of the importance of e-learning training and perceptions of the adequacy of existing training. In view of the discussion above, it is evident the mere integration or adoption of technology by teachers is inadequate for addressing the learning needs of the students. As research suggests (Khan, 2014), Saudi EFL teachers require competencies developed through professional development which includes a focus on pedagogy as well as content knowledge for effective ICT use. Therefore, this study sought to inquire into the training offered to participating e-EFL teachers in order to gauge the suitability of this for helping them move their learners towards learner-centred and heutagogical e-learning.

2.9   Relation of Theoretical Framework to Research Problem

To understand how a heutagogical approach may support Saudi e-EFL learners' self-efficacy with e-learning, modelling the intersections and interactions between the principles and criteria of heutagogy and self-efficacy within the cultural context of a foreign language classroom in the KSA is required. According to Blaschke and Hase (2016), heutagogical learning is learner-centred and learner-determined and involves capability (self-efficacy), self-reflection and metacognition, double-loop learning and non-linear learning and teaching. With non-linear learning being a key principle of heutagogy, the learners determine and lead their own learning, which can allow them to experience self-confidence in their own abilities as well as self-motivation, thus, yielding a positive impact on their affective regulation and in turn on their self-efficacy.

However, as Figure 3 indicates, within the Saudi e-EFL educational setting, the shift from the existing and prevalent teacher-centred pedagogy to a learner-centred pedagogy is influenced by a number of teacher and student factors. As Figure 4 suggests, teachers' perceptions of how useful and easy they find the e-learning tools available to them as well as their own ICT self-efficacy are likely to influence the manner in which they use the tools. Tools designed to promote learner-centred pedagogy can be used in a teacher-centred way, if the teachers lack the training and/or awareness (benefits of ICT, impact on teaching) to use them to promote heutagogical learning amongst students. At the same time, how the e-EFL students perceive the e-learning tools available to them and use them to regulate their learning has an impact on whether or not they can undertake self-determined or non-linear learning. As the model (Figure 4) demonstrates, the success of e-EFL learning is mediated by a range of significant factors of influence related to teachers and students which must be taken into account if heutagogical learning via e-learning integration is to be achieved. Based on this model, the study addresses what e-learning technologies are available in the Saudi e-EFL setting and how teachers deploy these (RQs1&2). Through RQ3, it examines factors influencing teachers' technology use and perceptions of e-learning tools. In RQ4, the study investigates how e-EFL learners perceive and make use of e-EFL tools to regulate their language learning. The tentative model presented on the next page also takes into account the influence of the cultural context of KSA which is characterised by a teacher-centred pedagogy and e-learning implementation which is hindered by a lack of teacher training.

Figure 4

Model of Influences on KSA E-EFL Learning
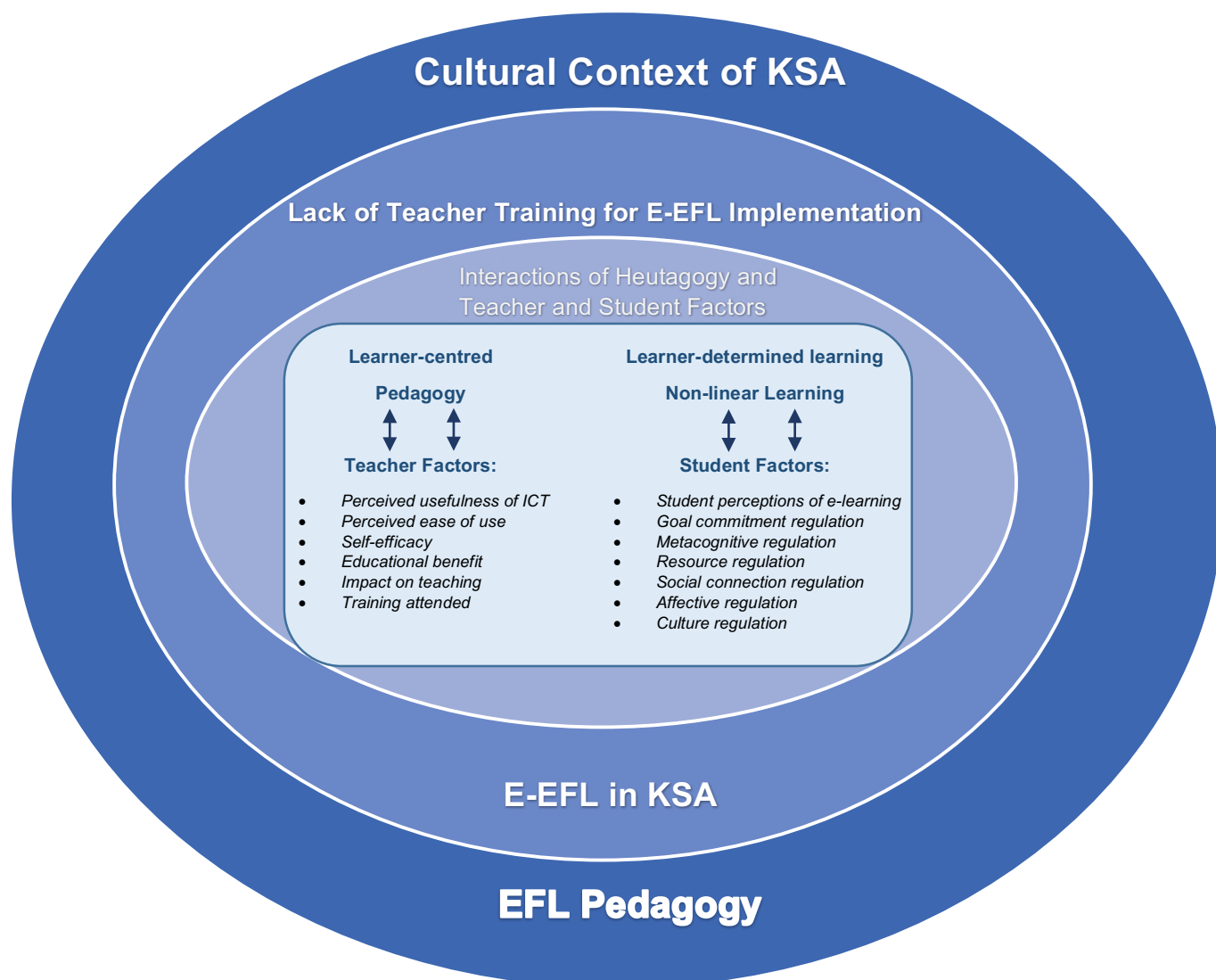
2.10 Summary

The KSA government has invested heavily in technology integration within the educational sector. A range of e-learning technologies have been integrated into the Saudi educational context. The Watani Project furnished educational institutions with computer labs and internet access, while the Tatweer programme helped to launch 50 smart schools nationwide at the piloting stage which facilities were provided with Wi-Fi access, smartboards, LCD projectors and digital cameras while the teachers and students were provided with laptops and Wi-Fi access. While the aim of the e-EFL reforms is to transform learners into self-determined critical thinkers and problem-solvers in

preparation for participation in the knowledge economy, the successful implementation of e-learning is faced by a number of challenges in higher education within KSA. Regardless of the investment in technology in the KSA for education, the influence of Wahabi ideology underpinned by a view of knowledge as being transmissible and of learners as passive recipients of such knowledge constrains the transitioning to a knowledge economy. The lack of teacher training also hinders the effective adoption of technology for pedagogical purposes as intended. Hence there is the risk of the missed potential of technology which can transform the teaching and learning paradigms and by extending learning beyond the classroom by means of virtual learning.

In order to prepare for participating in the contemporary workplace, e-EFL learners must not only be able to undertake self-directed and self-determined learning, act and reflect on their learning but also be able to understand their own learning processes. As Web 2.0 technologies enable users to create, share, work together and interact, these align well with the heutagogical approach that promotes 'learner-generated content and learner self-directedness in information discovery and in defining the learning path' Blaschke (2012, p.2). Blaschke (2012) notes that a heutagogical approach is responsive to developments within tertiary education as it enables learners to develop not just their competencies but also their capabilities and capacities to learn (Blaschke, 2012). As section 2.3 shows, there is a dearth of research on how learners use digital technologies to support their learning and what pedagogical approach this reflects as well as the type of teaching and learning paradigm supported by digital technology in a Saudi university-level e-EFL classroom. Hence, the current study addresses a significant gap in research on e-EFL within the Saudi HE context. Although as discussed earlier, a range of ICT technologies for e-EFL education are available at Saudi universities, existing research has paid little attention to redefining pedagogy based on e-learning integration. The heutagogical approach to self-determined learning is ideally suited for e-learning in the university e-EFL setting. Understanding learner self-efficacy and attitudes and perceptions towards e-learning technologies and how they intersect and interact may help inform on appropriate e-learning approaches for English in the KSA. The next chapter will discuss the methodology adopted in this study.

3   Research Methodology

3.1   Introduction

The current study has three key purposes: (a) to identify which digital technologies have been integrated in the Saudi e-EFL higher education classroom, (b) to examine the ways in which these digital tools for e-learning are being used by the teachers, and c) to explore whether the use of these digital technologies has facilitated a paradigm shift to learner-centred pedagogy as intended. Thus, this study inquired into the perspectives and experiences of both teachers and students from an e-EFL higher education setting, collecting descriptive quantitative and qualitative data on the teachers' use of technology and learners' e-learning experiences. The study examines Saudi EFL teachers' experiences in regard to e-learning with reference to which digital technologies they use and the ways in which they deploy these technologies. It has investigated EFL learners' e-learning experiences in terms of the extent to which this promotes their self-efficacy and heutagogical learning.

In this chapter, I presented details of the research methodology used for investigating Arab e-EFL learners' experiences of e-learning in a Saudi university setting. I included details of the paradigm within which my study is situated, details of the research setting and respondents, the sampling strategy I used for selecting respondents, and the methods and approaches used to respectively collect and analyse data. In addition, I also discussed the research procedures used to optimise the quality of the study through considerations of validity, reliability, generalisability, and ethical research practices.

I organised the rest of this chapter in the following way. Section 3.2 provides an overview of the research questions and is followed in section 3.3 by an explication of the research philosophy underpinning the study. In section 3.4, I present the descriptive quantitative research methodology deployed in the study and in section 3.5, I elaborate on the survey research strategy used to address the research questions. Section 3.6 provides details of the data collection instrument (questionnaires) including their design and layout, while sections 3.7 and 3.8 reports on the research sample, population, and research context. The issues of positionality and bias are addressed in section 3.9 and strategies to address ethical considerations in the study are elaborated in section 3.10. In section, 3.11, I explain the statistical analyses completed on the questionnaire data. The last section 3.12 summarises the chapter and provides a preview of the next chapter.

3.2   Overview of the Research Questions

The research questions addressed in this study are:

RQ1: What digital technologies and e-learning strategies been incorporated into the tertiary e-EFL classroom in Saudi Arabia?

RQ2: In what ways have digital technologies and e-learning strategies been integrated in the tertiary Saudi e-EFL classroom?

RQ3: Based on the teachers' perceived usefulness of ICT, ease of use, educational benefit, impact on teaching, self-efficacy and training attended, how do the participating teachers use e-EFL to move their learners towards heutagogical learning?

RQ4: How are students using e-EFL to develop as heutagogical learners in relation to goal commitment, affective, social connection, resource, metacognitive and culture regulations of their learning experiences?

As explained in Chapter 1, the focus of the study was to investigate whether the integration of digital technologies in Saudi e-EFL classrooms had facilitated learner-centred pedagogies. From my review of the literature, I highlighted a lack of research on e-learning integration and pedagogical reforms in the Saudi e-EFL context. I therefore formulated the above research questions to examine the application of digital technologies in e-EFL classrooms in Saudi Arabia, with a particular focus on whether e-learning technologies and strategies had helped to promote learner-oriented pedagogy in the research setting. To capture a holistic picture of e-learning integration in Saudi e-EFL classrooms, I decided to formulate research questions that would address different aspects of e-learning integration, including the existing state of such technology integration in the research setting, types of e-learning, and strategies adopted, the impact of e-learning on teaching and learning in the university EFL setting and whether these digital technologies promoted learner-centred learning. In addition, I also looked at how students' learning was mediated by their use of different kinds of regulation, including regulations related to goal commitment, affective, social connection, resource, metacognitive and culture.

While RQ1 examined the types of e-learning technologies and strategies deployed in these settings, RQ2 inquired into how e-learning had been integrated into Saudi university e-EFL classrooms, RQ3 was designed to evaluate ways in which e-learning technologies had supported teaching in Saudi e-EFL classrooms. Taking a broader perspective, RQ4 was formulated to evaluate ways in which e-learning technologies had supported learning in Saudi e-EFL

classrooms to gauge whether the integration of e-learning had facilitated a shift towards learner-centred learning in Saudi university e-EFL classrooms.

3.3   Research Philosophy

Central to the design of any research study 'is the conceptual lens through which the researcher examines the methodological aspects of their research project to determine the research methods that will be used and how the data will be analysed' (Kivunja & Kuyini, 2017, p.26). This is also defined as the 'system of the researcher's thought, following which knowledge about the research object is obtained' (Žukauskas et al., 2018, p.121). Žukauskas et al. (2018) add that it is this research philosophy which influences the design of the study, including selection of the research approach, how the phenomenon under focus is to be studied, and the methods of data collection and analysis.

This research philosophy is articulated in the form of a paradigm, which includes considerations of ontology and epistemology. Without first nominating a paradigm, there is little basis for subsequent choices regarding methodology, methods, literature, or research design. Ontology can be understood as 'claims and assumptions that are made about the nature of social reality, claims about what exists, what it looks like, what units make it up and how these units interact with each other' (Blaikie, 2000, p.8). On the other hand, epistemology is about the 'possible ways of gaining knowledge of social reality [or] claims about how what is assumed to exist can be known' (Blaikie, 2000, p.8). Grix (2002) observes that a researcher's belief about the nature of reality is the launching point of research, and his or her ontological assumptions then guide how knowledge of this social reality can be generated and what constitutes valid knowledge.

While there are multiple paradigms describing different ontological and epistemological positions on a spectrum, two of the most prominent ones that underpin most social science research are positivism and interpretivism. Positivism defines the researcher as an observer of an external, unified, and objective reality so that a scientific methodology must be used to investigate social phenomena. With interpretivism, reality is viewed as subjective and can only be understood by accessing experiences of research participants, or, in other words, by asking the participants directly (Mack, 2010). Hence the researcher and what is being studied 'are interactively linked' and the 'findings are mutually created within the context of the situation which shapes the inquiry' (Guba & Lincoln, 1994, as cited in Sale et al., 2002, p.110).

The current study is focused on Saudi e-EFL teachers' and learners' perceptions, attitudes, opinions and beliefs about e-learning and pedagogical consequences which could possibly be

generalised to other contexts. Hence, while it was humanistic in that it sought to understand how Saudi e-EFL teachers and learners experienced e-learning at a Saudi university, I have taken a numerical approach to collecting data on these experiences with a view to generating generalisable findings. I anticipated that the Saudi university e-EFL students, whose demographic composition reflected common educational, cultural, and religious backgrounds (a homogeneity) would be affected uniformly by the integration of e-learning in their educational environment. I could access this unified and external reality of what students and teachers were experiencing using a scientific methodology, by collecting and analysing data on their experiences of and attitudes towards e-learning, namely the survey approach, as discussed in the next section. Although the dominant paradigm for this study was positivism, I supplemented this with the paradigm of pragmatism based on the view that it is the research problem which must determine the methods of data collection and analysis best suited to generate insights into the problem, rather than loyalty to a specific paradigm (Mackenzie & Knipe, 2006).

3.4   Research Methodology

A research study can be either qualitative or quantitative in nature. Qualitative methodology is typically used by researchers who want an answer to the following questions: why and how? Researchers who want to understand why or how something occurs, or to gain a better understanding about a phenomenon in general will adopt a qualitative approach (Mason, 2013). On the other hand, quantitative approach is based on numbers, meaning that it is measurable, testable, and countable. Researchers who adopt the quantitative methodology seek factual data (Walliman, 2017). Under this paradigmatic umbrella, there is a further distinction between research approaches based on the data generated and their ramifications for the generalisation of the results beyond the original setting of the study. The qualitative approach 'is a systematic approach to studying a phenomenon within a particular context' that does not 'rely on statistics or numbers' and is, therefore, 'less generalisable than quantitative methods' (Mason, 2013, p.2484). This approach focuses on collecting largely word-based data from methods like interviews or ethnographic observations, which can even include image-based data. The sample size tends to be limited, as the aim is to achieve depth over breadth of findings by collecting extensive, rich, and nuanced data from fewer participants. The quantitative approach is 'based on formal, objective, and systematic processes in which data are numerically quantified' and allows for the greater generalising of results (Mason, 2013, p.2485). Thus, qualitative approach is not suitable for the current study, as I do not intend to collect extensive data from fewer participants, rather the goal of this research is to generate representative and testable findings.

On the other hand, a quantitative approach is often focused on collecting and analysing numerical data through experimentation, structured observation, or questionnaires. As its aim is to achieve a more generalisable results, the collection of objective numerical data, which is guided by researcher control over variables and minimisation of external influences, is central to the quantitative approach. Questionnaires are especially beneficial for collecting a large number of numerical data from a representative sample, as it is relatively easy to administer and analyse afterwards (Yee & Khin, 2010). As the current research questions centre around measuring the ease of use, usefulness, educational benefit, impact on teaching, self-efficacy and training attended of ICTs in e-EFL classrooms, collecting that information through questionnaire was the most practical way of achieving that. Moreover, questionnaires will also allow me to measure the impact of ICTs with respect to goal commitment, affective and social connection, resource, metacognitive and culture regulations of students' language learning experiences.

In this study, embedded as it is within a positivist paradigm, I view the survey approach as appropriate for generating quantitative data and statistics to explore the contributions of e-learning on Saudi e-EFL students and on the implementation of a more learner-centred learning (Yee & Khin, 2010). I chose to use questionnaires due to their capacity for gathering information from a large number of Saudi e-EFL learners, which would thus be as representative as possible of the university student and teacher population in the research setting. Further, I opted to use questionnaires due to their suitability for collecting demographic data on students, ease of questionnaire development and administration as well as the potential of questionnaires to gather insights into the attitudes of the respondents to the phenomenon of e-learning (Glasow, 2005).

The main approach that I have adopted in the study was a descriptive quantitative research method. Primarily, the aim was to observe and describe the behaviour of the population while minimising any external influence, to depict the participants' experiences as accurately as possible. The quantitative approach aligns with the numerical paradigm insofar as this method is concerned with the collection of numerical data, which can be subjected to descriptive statistical analyses. Quantitative data (discrete data) is collected using questionnaires. Questionnaires are used to survey a sample of people, to describe their attitudes, opinions, characteristics, and behaviours (Walliman, 2017). This is one of the most common data collection methods used by researchers, scholars, and practitioners. Statistical methods are applied to analyse the data and describe trends in the responses to help answer research questions or test hypotheses (Creswell & Clark, 2017).

As discussed in Chapter 2 (section 1.4), within existing literature on e-learning in Saudi e-EFL settings, negligible attention has been directed towards the redefining of pedagogy in response to the integration of digital technologies in e-EFL classrooms within KSA universities. Indeed, there seems to be little focus on e-learning and pedagogical reforms. Thus in view of the government initiatives towards digital technologies for learning and learner-centred approaches to teaching and the lack of research on these two dimensions, the current study was envisioned to provide insights into whether or not integration of e-learning has been accompanied by necessary shifts in teacher and learner roles which move the learners towards self-efficacy and heutagogical learning.

3.5   Research Strategy

A research strategy is the plan for conducting a research study and setting out and offering guidance to researchers on the process of planning, executing, and monitoring the study (Creswell & Clark, 2017). It stipulates how the research will be conducted by providing a plan of action and direction for the researcher's thoughts and efforts, hence fostering a systematic study that delivers quality results and integrates detailed reporting.

Survey types can be exploratory, descriptive, or explanatory; designs vary depending on the aims and objectives of the inquiry and the approach adopted to study the phenomenon under focus (Lau & Kuziemsky, 2016). Exploratory surveys are carried out to gain insights into an issue or topic without 'predetermined notions of the expected responses' (Lau & Kuziemsky, 2016, p.228). Within a survey design, the researcher carries out the study with respondents who have knowledge about the topic or issue being investigated, typically seeking to 'formulate problems, clarify concepts, and form hypotheses' but not test them (Sue & Ritter, 2012, p.2). Descriptive surveys seek to describe respondent perceptions and to associate respondent characteristics with the phenomenon under study (Lau & Kuziemsky, 2016). While descriptive survey studies feature one or more research questions, they are not led by 'structured research hypotheses' (Sue & Ritter, 2012, p.2). Explanatory research aims to 'explain or predict one or more hypothesised relationships between some respondent characteristics' and the studied phenomenon (Lau & Kuziemsky, 2016, p.228). The aim of explanatory research is to 'explain why phenomena occur and to predict future occurrences' by testing hypotheses which delineate 'the nature and direction of the relationships between or among variables' (Sue & Ritter, 2012, p.2).

I chose the exploratory design because the issue of e-learning and pedagogical consequences of integrating this approach in the Saudi university e-EFL setting has received little attention so far. As is evident in the name, exploratory research is tentative and, thus, seeks to generate data

on the research questions but does not attempt to provide conclusive evidence on issues. Hence, due to its suitability for researching an underexplored area, I considered this design appropriate for inquiring into e-learning in Saudi EFL classrooms and its contributions on learner-centred learning, which has not been explored hitherto. I expected this design to help provide a better understanding of the topic by exploring the phenomenon at varying levels of depth (Serakan & Bougie, 2016). This exploratory strategy is considered to form the basis of more conclusive research through facilitating the determination of appropriate designs, sampling methods, and data collection for future research.

In the context of descriptive quantitative methods, I used quantitative surveys and focused on collecting and converting data into numerical form for statistical analyses to support relevant conclusions, as recommended by Morse (2016). Furthermore, the survey strategy is associated with the deductive approach (Saunders et al., 2012). The deductive approach seeks to establish whether there is a relationship between identified variables in the context and involves testing the observations for such relationships. I, therefore, collected primary data through the use of questionnaires.

3.6   Data Collection Instrument

3.6.1   Survey by Questionnaire

The use of quantitative survey by questionnaire was informed by the humanistic philosophical approach. Lewis-Beck, Bryman & Futing Liao (2004, p.465) describe humanistic research as 'giving prime place to human beings, human meaning, and human actions in research [while working] 'with a strong ethical framework that both respects human beings and seeks to improve the state of humankind in a global context'. In this study, it was important to know how teachers and learners alike experienced and perceived e-learning in their EFL context. The survey research approach involves the use of questionnaires for data collection, which can be structured or semi-structured. The method is widely used in educational research since it supports convenient access to a large number of respondents (Saunders et al., 2012). Questionnaires are standardised so that all respondents receive the same questions; hence the responses collected are easily analysed (Creswell & Clark, 2017). Further, the availability of online platforms makes the method cheap to use for the distribution of questionnaires and collection of responses from participants.

Effective quantitative survey research requires a rigorous process for designing and improving the questionnaire (Saunders, 2016). My survey explored the research topic in a broad manner,

considering respondents' representations, attitudes, and practices. Consequently, I used validated questionnaires from previous research to capture the main concepts of the research problem.

Survey by questionnaire as a research approach has been criticised for its inflexibility and the risk of collecting irrelevant or inaccurate information, if questions are poorly phrased or include typos. Respondents may be presented with "yes" or "no" questions, among others, with a limited set of options, hence restricting responses to the number of available alternatives. Consequently, I aimed to develop relevant questionnaires to gather meaningful information from respondents. I adhered to Creswell and Creswell's (2017) recommendations to keep the questionnaire relatively short, non-intrusive, and simple to understand, while accurately measuring the problem under investigation.

The two questionnaires were derived from two separate studies. The teachers' questionnaire was derived from a study by Mahdum et al. (2019), and the students' questionnaire was derived from a study by Andrew et al. (2018) and a study by Çelik et al. (2012) which investigated EFL learners' use of ICT for self-regulated learning. I selected the sample of one university based in KSA offering language learning courses. I focused on using only the sample of students who attend EFL courses at the university, and also teachers who teach these classes. From this general sample, I conducted the systematic sampling, that is selecting every 10th person from that sample, irrespective of other characteristics. All participants were invited to take part in the study through an email link that was circulated internally in the university. All answers were submitted anonymously to me which allowed me to conduct my data analysis.

3.6.2   Questionnaire Design

Structured questionnaires were administered to the respondents in the data collection process. The questionnaire was designed in line with research questions to facilitate the process of verifying or falsifying the findings (Sale et al., 2002). In examining the adoption, usage, and pedagogy of e-learning tools in Jeddah University, quantitative online surveys were used.

The questionnaire was structured to solicit demographic data. Moreover, the respondents were asked to estimate their technology affinity based on the amount of time they spent on electronic devices. Moreover, the questionnaire explored the factors influencing tool selection and usage. This involved highlighting the perceived importance of different individual and exogenous factors. Questions on the limitations associated with tool selection, frequency of use of hardware devices,

and in addition, the level of satisfaction with regards to the software provided by the university were examined. Details of the questionnaire organisation are presented below:

3.6.3 The Layout of the Questionnaires

The participant information sheet: The questionnaires were accompanied by the participant information sheet which included a brief invitation and my identity as a PhD student from Brunel University. In addition, the letter indicated the purpose of the study, assuring the participants of the confidentiality of their information. This letter ended with an expression of thanks to the participants for their kind co-operation (Appendix A).

Consent page: The participants were asked to fill out the consent form online in order to take part in the study (Appendix B).

 The questionnaires' structure: The question items in the questionnaires were organised according to themes. Furthermore, instructions were included to guide the participants to answer the questions clearly and without confusion.

Two different questionnaires were distributed as part of the study (copies of both questionnaires can be found in Appendix C & D):

Teachers' questionnaire: This questionnaire was developed to explore the participants' perceptions of and motivation toward ICT use in e-EFL classroom. This instrument was adapted from a study conducted by Mahdum et al. (2019) to explore teacher perceptions and motivations to ICT use in the Indonesian context. A choice was made to adapt the questionnaire from Mahdum et al. (2019) because, although the context is different from that of KSA, the focus of their study (teacher perceptions and motivations towards ICT use) runs parallel to the focus of the present study. Further, Mahdum et al.'s (2019) research focuses on the EFL context as does the current study. Thus, the questionnaire was found to be relevant for addressing the research questions in the present study (See Appendix E for more details).

The teachers' questionnaire used in the present study is divided into 3 sections:

Section one: The first section aimed to gain background and demographic details about the e-FFL teachers such as their age, nationality, their highest academic/teaching qualifications, teaching experience, and types of ICT used in e-EFL classroom at university and any ICT use trainings attended.

Section two: This section aimed to get an insight of teachers' perceptions regarding the perceived usefulness and ease of ICT and their motivation toward ICT use in terms of self-efficacy, educational benefits, impact of teaching and lastly, their opinions of the ICT trainings attended.

Section three: The last section aimed to explore the obstacles teachers face when using ICT in teaching, how they managed to cope with these obstacles, and whether or not the teachers devolved responsibility for learning to the students.

Students' Questionnaire: The items in section 3 in the learners' questionnaire were adapted from a study carried out by Andrew et al. (2018) inquiring into student attitudes towards technology and their preferences for learning tools/devices at two universities in the UAE. The items for students' questionnaire were chosen from Andrew et al.'s (2018) research not only because of the similarity of the research context (Arab and EFL) but also due to the similarity of the research focus (A copy of the items adapted from Andrew et al.s' (2018) survey is found in Appendix F). Section 4 of the students' questionnaire made use of questionnaire items from a study by Çelik et al. (2012) investigating EFL learners' use of ICT for self-regulated learning. These particular items from the research by Çelik et al. (2012) were selected because this study focused particularly on the types of regulations which influence EFL learners' language learning experiences with e-learning tools. Thus, these validated items were particularly pertinent to the research focus of the present study (To see the selected items adapted, check Appendix G).

The students' questionnaire is divided into 4 sections:

Section one: The first section aimed to collect the students' demographic information. This information includes the students' age, level, nationality, and the name of the campus.

Section two: The following section explored the students' access to and use of internet and e-learning technologies. It included the devices they use, the amount of time they normally spend on using e-learning technologies, the purpose of technology use, and the kinds of ICT technologies available to them in the classroom.

Section three: This section investigated students' perceptions of and attitudes toward e-learning.

Section four: The last section was developed to examine students' use and experience of e-learning technologies and self-efficacy with regards to six main factors: goal commitment, affective, social connection, resource, metacognitive, and culture regulation.

3.6.4   Links Between the Research Questions and Conceptual Framework

I used structured questionnaires for data collection as it is one of the basic research techniques of quantitative research to gather structured information from individuals. However, questionnaires need to be designed in line with the research questions to facilitate the process of verifying or falsifying findings (Sale et al., 2002). I structured the questionnaire to include an introduction to the research topic and collect demographic data. I asked respondents to estimate their technology familiarity based on the amount of time they spend on electronic devices. Moreover, the questionnaire explored the factors influencing tool selection and usage. This involved highlighting the perceived importance of different individual and exogenous factors. I also included questions on the limitations associated with tool selection, frequency of use of digital technologies, and, in addition, the level of satisfaction with regards to the software provided by the university. Table 4 explicates the link between the research questions and the literature reviewed in Chapter 2.

Table 4

Conceptual Framework

Conceptual Framework	Research questions	Questionnaire items
	What digital technologies and e-learning strategies been incorporated into the tertiary e-EFL classroom in Saudi Arabia?	Section 2 in the students' questionnaire looks at the e-learning technologies available at university.
	In what ways have digital technologies and e-learning strategies been integrated into the tertiary Saudi e-EFL classroom?	Open ended questions 1, 2 and 3 in the teachers' questionnaire look at the challenges faced by the participating teachers and the strategies used by them to make use of e-learning tools to further heutagogical learning.
Self-efficacy	Based on the teachers' perceived usefulness of ICT, ease of use, educational benefit, impact on teaching, self-efficacy and training	In Section 2 of the teacher questionnaire, items 1-40 look at perceived usefulness of ICT, perceived ease of

Conceptual Framework	Research questions	Questionnaire items
	attended, how do the participating teachers use e-EFL to move their learners towards heutagogical learning?	use of ICT, self-efficacy, educational benefit, impact on teaching and trainings attended.
Self-efficacy Heutagogy	How are students using e-EFL to develop as heutagogical learners in relation to goal commitment, affective, social connection, resource, metacognitive and culture regulations of their language learning experiences?	In the student questionnaire, section 4 looks at students' use and experience of e-learning technologies and self-efficacy.

3.6.5 Validity & Reliability Procedures Followed in Original Studies

3.6.5.1 Teachers' Questionnaire.

Validity of the instrument refers to the accuracy of the measure, while reliability refers to the consistency of a measuring tool. Reliability can be maintained if the same instrument is used for measurement, however the results are likely to differ based on the type and number of participants taking part in the study. With respect to the validity, each instrument can be measured to determine how well it can measure what it intends to measure. In the original study by Mahdum et al. (2019), the teachers' questionnaire was piloted with a sample of participants not included in the main study sample. The Cronbach's Alpha was deployed to measure the internal consistency of the questionnaire, resulting in 0.836 for the perception section and 0.762 for the motivation section. As both scores were higher than the usual acceptable reliability co-efficient of 0.70, the questionnaire was considered to demonstrate that the items in each section were closely related as a group and therefore the instrument was administered to the participants. Thus, as the same questionnaire will be administered in this study, its validity and reliability remains high.

3.6.5.2 Students' Questionnaire.

The students' questionnaire used in this study was derived from a study by Andrew et al. (2018) validated their questionnaire in the following way: i) two of the study authors worked together to produce questionnaire items, ii) the other researchers working on the project gave feedback on

the initial draft of questions, iii) necessary changes were made to the questionnaire in the light of the feed-back, iv) the questionnaire was piloted with 3 learners, v) an outside faculty member not connected to the study reviewed the questionnaire. Finally, (vi) the questionnaire was revised on the basis of feedback generated during the piloting and student feedback from the pilot and the review by the faculty expert. In the study by Çelik et al. (2012), the researchers piloted their questionnaire with 6 non-sampled EFL learners and then with another 12 EFL learners, subsequent to which questionnaire items were rephrased and reformatted based on feedback during piloting. Through these multiple revisions, the instrument has reached a high validity and reliability score, making it suitable to use in this study.

3.6.6   Validation of the Adapted Questionnaires for the Current Study

3.6.6.1   Piloting.

In the development of the questionnaires, a small-scale pilot study was undertaken. Piloting has been advocated by other researchers to ensure the suitability of the questions and to enhance the validity of the research. Moreover, piloting is important for detecting the hidden problems and fallacies and for checking the appropriateness of the instruments and the data collection procedures. (see e.g., Creswell, 2003; Dörnyei, 2003; Gliner et al., 2011; Loewen & Plonsky, 2015; McBurney & White, 2009; Riazi, 2016). Such researchers ensure that piloting can provide valuable feedback on:

- The instrument's validity and reliability.
- The clarity of item wording, ambiguity, or the difficulty of instructions.
- The amount of time needed to complete the questionnaire.

Therefore, the pilot study consisted of two stages: initial piloting and final piloting:

3.6.6.2   Initial Piloting.

This stage started by asking 15 people (9 to complete the students' questionnaire and 5 e-EFL colleagues to complete the teachers' version). I was present to check for any confusing or difficult questionnaire items faced by the participants while thinking aloud when filling in the survey. Most participants were able to complete and understand the questionnaires without seeking my assistance in explaining the items. Only a few amendments were made based on their feedback (see section 3.6.6.4 below for more details).

3.6.6.3 Final Piloting.

In this phase, the students' questionnaire was administered to 55 students and 14 teachers. I chose foundation year students and e-EFL teachers from a public university in Jeddah, Saudi Arabia who shared similar characteristics with the target population. The sample were all females and consisted of humanities and science students. The students were informed that their participation in this research is completely voluntary and were assured that their responses would be kept confidential.

The participants were requested to raise questions if they face difficulty understanding the items of the questionnaire or the instructions of the research. They took less than 10 minutes to complete the questionnaires.

3.6.6.4 Questionnaire Translation.

Both questionnaires were designed in English. There was no need to translate the teachers' questionnaire as all of them are EFL teachers. However, the students' survey was translated into Arabic since the targeted research context is in an Arabic country (Saudi Arabia). The translation was validated by a professional translator who revised the Arabic from in order to check its accuracy, clarity, and fluency (A copy of the Arabic version of the survey is found in Appendix H). This was especially important to increase the accuracy of the responses and to avoid possibility misinterpreting the questionnaire items. Only a few minor modifications in style and terminology were made. Some of these modifications were:

- Phrases such as *language learning* and even the word *language* were replaced with *English to focus on the English language and avoid confusion.*
- Phrases such as *ICT* and *e-learning technologies* were replaced with *technology* in general as it means the same in the Arabic language and the students are familiar with this term more.

3.7   Research Population and Sample

Based on the guidelines offered in Bell et al. (2018), I surveyed a sample of respondents drawn from the study population to represent the Saudi e-EFL student population. The participants in the study included teachers and foundation year students at the English Language Institute (ELI) in a major public university in the western region of Saudi Arabia. The teachers had various cultural backgrounds and experiences. The students, however, were all Saudis and had Arabic as their first language. Due to cultural restrictions, all participants were female, and I recruited

them on a voluntary basis with fully informed consent. The contact details of the participants were sourced from the university student mailing list.

For descriptive statistics to be representative, Denscombe (2017) suggests a ten percent sample. Of the total population. The university population comprised 3,433 students, and the aim was to recruit 343 students from this number. Systematic sampling was used in the current study in order to obtain a random ten percent sample from the population of students. The main benefit of using systematic sampling is that it allows the researcher to achieve a truly random sample, as the researcher selects only the nth person from that sample, not based on any particular characteristic (Bell et al., 2018). Systematic sampling is defined by = 1/I, where i is the sampling interval and the sampling fraction is equal to the probability of selection. A sample of students (n = 343) was recruited with equal probability from the full university population (N) of 3,433 students, giving a sampling fraction f (= n/N) of 343 or approximately 10%. For the teacher survey, a sample of n=41, from the total faculty population of N=160 was recruited. An invitation to participate was emailed to all the faculty. Of this number, 41 teachers consented to participate in this study. This was well above sixty percent of the total population and hence substantially representative of the population.

3.8 Research context

The participants in my investigation are Saudi foundation year students aged ranging from 18 to 21 years of age and teachers from various cultural backgrounds and experiences. The English language programme in which the participants were enrolled is structured to give students oral and written communication skills culminating at the intermediate level in the English language (B1 CEFR). This is Jeddah University's established minimum English Language requirement. The programme intends to develop students' language skills, in general, and is based on a modular system. It consists of two levels of English which students need to pass in one academic year. The primary course book used for humanities and science tracks is *National Geographic Learning.* The aim of the ELI is to improve students' English proficiency using innovative methods for teaching and learning. Specifically, the English Language, and is committed to developing students' general language skills through a rigorous curriculum that fosters active and independent learning. Classes have up to 30 students from both streams of humanities and science. While Jeddah University maintains a minimum level of English proficiency for all students, students are encouraged to attain the highest possible level. Coveted faculty encourages students with a higher level of language achievement because their texts are all in English. Those students desiring to enter into the most rigorous and competitive degree

programs, such as Medicine or Engineering, must know that those degree programs require that interested students are capable of meeting this expectation.

3.9 Positionality and Bias

The positionality of the researcher can refer to the position they adopt with respect to their research study, its social and education context, and the country of Saudi Arabia in general. I understand that as a researcher, I may express specific views about the context of education system in KSA, which may be different to that of the participants. As I recognise the fact that I have my own experiences in the education system in KSA, and that my personal experiences may affect how I interpret the findings in this study. Therefore, I maintained self-reflection and a reflexive approach throughout the study process in order to avoid unconscious bias during the study. This practice allowed me to seek an understanding of my experiences in the education system in KSA, my opinions about the education system and how it can be improved, and how my opinions may influence my analysis. I tried to stay away from imposing my own social and political beliefs onto the study through regular self-assessment and journaling. The numerical nature of my study helped me to remain objective in my analysis at all times.

3.10 Ethical Considerations

Ethical research is a pre-requisite of all research. It involves treating all 'participants as humans with intrinsic moral worth, and not just as a means of obtaining data or knowledge' (Farrimond, 2012, p.18). In the present study, one of the key ethical considerations was that of informed consent. This is defined as 'the knowing consent of individuals to participate as an exercise of their choice, free from any element of fraud, deceit, duress, or similar unfair inducement or manipulation' (Lune & Berg, 2017, p.46). As the participants were stakeholders in the research setting expected to share their insights on e-learning practices at their university, their participation in the study entailed the risk of revealing information that could harm them. Thus their participation had to be based on an awareness of the nature of the study and all potential risks. In line with this, I secured informed consent of the participants in my study by following the steps below:

i) I obtained Brunel University's Research Ethics Committee's approval by following Brunel University London's Code of Research Ethics to complete the ethics approval form (Appendix I).

ii)   I invited all participants by email and mentioned the purpose and nature of the study as well as providing them with my information as the researcher and how the results will be communicated (Appendix J-K).

iii)   I included a clear and comprehensive information sheet as requested from Brunel University London's Code of Research Ethics (Appendix A).

iv)   I informed the participants that their participation was on a voluntarily basis and required completing the consent form (Appendix B).

v)   I invited the participants to ask questions and notified them that they could withdraw from the study at any point.

vi)   I kept all data confidential, stored digitally and securely, and anonymised to minimise the risks.

One of the key considerations of ethical research in the context of the present study is to ensure participant anonymity and confidentiality of their data. Trochim, Connelly and Arora (2016, p.42) define anonymity as ensuring that 'there is no personally identifying information in a data set. That is, there is no way that an individual can be identified from the information stored in a researcher's files'.

This again was important because by sharing their candid opinions of how they experienced e-learning at the university, the student participants were at risk of revealing information that could have negative implications for their future learning and assessment, while the teacher participants were at risk of institutional censure for their views of how e-learning was rolled out in their workplace. Anonymising the data ensured that all identifying details of the participants were removed, and they could share their experiences freely.

Confidentiality was another important concern. Confidentiality is defined as 'the principle that information about participants in research is private and should only be revealed with their consent' (Jupp, 2006, p.35). To ensure confidentiality of my participants' data, I kept all data confidential, stored digitally and securely, and anonymised.

3.11 Data Analysis

I analysed the numerical data collected through the survey using statistical methods. Variables were coded and analysed using SPSS software. Descriptive statistical methods including frequencies, percentages, and means were used, and the data were presented through tables to facilitate easy interpretation. The key results and findings from the analysis are summarised and reported in Chapter 4.

Data from the teacher and the student questionnaires were analysed statistically. Using data from the teachers' questionnaire, descriptive statistics such as mean score, frequency distribution, and percentages were calculated for variables such as age, nationality, highest academic/teaching qualifications, teaching experience, types of ICT used, and ICT trainings attended. Furthermore, I validated the perceived usefulness and ease of use of ICT through the mean ranks and mean score analysis calculated using SPSS version 21. Variables such as motivation toward ICT use in terms of self-efficacy, educational benefits, impact of teaching, and lastly, opinions of ICT trainings were also analysed.

The student questionnaire examined the students' access to and use of internet and e-learning technologies through statistical analysis. Descriptive statistics such as frequency, percentages, mean scores, and standard deviation (SD) were calculated for the data related to using e-learning technologies, the purpose of technology use, and the kinds of ICT technologies available. Moreover, percentages were calculated for factors such as goal commitment, affective, social connection, resource, metacognitive, and culture regulation, and presented in tabular form in the results section.

3.12 Summary

In this chapter, I have provided the details and the rational for the methodology adopted for my research, covering the research philosophy, methodology, research strategy, questionnaire design and piloting, analytical procedures, and ethical considerations. To address the research questions framing the study, I selected and implemented survey research embedded within the paradigms of positivism and pragmatism in the research context of Saudi university e-EFL students. The aim of the methodology was to identify the e-learning experiences of Saudi e-EFL learners at university and to gauge the influence of e-learning integration on the desired progression to student-centred learning. The quantitative approach was viewed as appropriate for the large-scale collection of data on the perceptions, attitudes, and experiences of Saudi e-EFL learners in regard to the integration of e-learning in their classrooms and the impact of e-learning on the shift to more student-centred learning; a quantitative large-scale study is more likely to produce more generalisable results. In the next chapter, I will present the results from the analysis of the questionnaire data.

4   Results

4.1   Introduction

This chapter is devoted to covering the statistical analysis to address the research objectives. I presented exploratory data analysis with some description for research sample demographic variables. I analysed the quantitative data collected from the survey using statistical methods. Furthermore, I reviewed the data from the surveys prior to analysis, where I removed any incomplete data, and only included complete answers in my analysis. More particularly, I coded and analysed the variables using SPSS software. I used descriptive statistical methods including frequencies, percentages and mean, and I presented the data through tables to facilitate easy interpretation. Lastly, I summarised and reported the key results and findings from the analysis in the next chapter. Findings were grouped into four different categories, focusing on addressing each research question separately. Findings focused on identifying the digital technologies and e-learning strategies incorporated in e-EFL classroom in KSA, how they were incorporated, their perceived usefulness, ease of use, educational benefit, impact on teaching, self-efficacy and training attended, as well as its effectiveness against helping heutagogical learners in relation to goal commitment, affective and social connection, resource, metacognitive and culture regulations of their language learning experiences.

Descriptive statistics of the survey instrument were provided to describe the basic features of the items. Next, I examined the reliability of the research instrument by Cronbach's Alpha. It is utilised to measure the reliability between the variables among the scales of survey items within construct. A reliable scale should have a Cronbach's Alpha coefficient above 0.7 (Cronbach, 1951). Reliability test is done so that I can develop a grand total (mean) score to represent the underlying construct and perform mean differences by using t-test or ANOVA (Analysis of Variance). I used independent samples t-test when comparing two groups and used ANOVA when comparing more than two groups. Throughout this study, I considered 5% as significant level for the tests. IBM SPSS Statistics 23 software package was used to carry out all the analysis.

4.2   Teachers' Data

In the teacher survey, the sample, n=41 was selected from a population of N=160 teachers at the university.

4.2.1 Demographic Profiles

The distribution of the individuals of the sample according to various demographic variables is summarised in Table 5 These relate to questions 1-8 in section 1 on the survey questionnaire. The results show that all respondents are female with majority are over 31 years old. The sample is composed of Saudi (39%) and non-Saudi (61%) nationals. The great majority of respondents achieved a Master degree with proportion nearly two-thirds. With regards to teaching qualification, about 46% have TESOL/EFL teaching certification, 15% have teacher training certificate, and the remaining 39% has other certifications. In addition, majority respondents (83%) have attended workshop or training related to ICT use such as LMS and National Geographic learning seminars offered by Cambridge and Oxford University, online webinars and face-to-face training on Blackboard. Other workshops on using WhatsApp in classroom, Quizlet (an online study application that allows students to study various topics via learning tools and games), Kahoot (a game-based learning platform), Padlet (an online notice board that can be used by students and teachers to post notes on a common page), Edmodo (an educational website that allows teachers and students to reach out to one another and connect from anywhere with all-in-one LMS, collaboration, and Zoom video conferencing tools), Quil (interactive slides that contain writing prompts, and the entire class responds to each prompt), and Nearpod (an instructional platform that merges formative assessment and dynamic media for collaborative learning experiences). Other various workshops include Blended learning, Blending life skills with digital literacy, TESOL and technology, Using multimedia in the classroom, Transitioning to online teaching, Teach like a Twitterati, The power of PowerPoint, ICT use, Using technology in the EFL classroom, and Collaborating old and new teaching methods.

Table 5

Demographic Profiles

Demographic Variables	Frequency	Percentage
Age		
26-30	2	5%
31-40	18	44%
Above 40	21	51%

Demographic Variables	Frequency	Percentage
Gender		
Female	41	100%
Male	0	0%
Nationality		
Saudi	16	39%
Non-Saudi	25	61%
Branch		
Al-Salamah	18	44%
Al-Faisaliah	16	39%
Khulais	4	10%
Al-Kamil	3	7%
Highest Academic Qualification		
Master's	26	63%
MPhil	2	5%
PhD	8	20%
Other	5	12%
Teaching Qualification		
TESOL/EFL teaching Certificate/Diploma	19	46%
Teacher training Certificate/Diploma	6	15%

Demographic Variables	Frequency	Percentage
Other	16	39%
Attending training/workshop about ICT use		
Yes	34	83%
No	7	17%

Table 6 provides the types of ICT used in e-EFL classroom at university. These responses relate to question 8 on the survey questionnaire. PowerPoint is used by all respondents, followed by E-mail mentioned by 93% respondents and virtual learning environment such as blackboard mentioned by 90% respondents. Smart board and blog are less likely to be used mentioned by just below 20%. Other types used by 20% respondents include, YouTube, Google Classroom, applications for assessments, online websites for games, Kahoot, Quizlet, Edmodo, Nearpod, Socrative (a cloud-based student response system that allows teachers to create simple quizzes that students can take quickly on laptops – or, more often, via classroom tablet computers or their own smartphones) and Prezi (a web-based tool for creating presentations).

Table 6

Types of ICT Used in E-EFL Classroom at University

ICT	Frequency	Percentage
PowerPoint	41	100%
Email	38	93%
Virtual Learning Environment (e.g., Blackboard)	37	90%
Online quiz	33	80%
Giving task/discussing materials using smartphone	32	78%

ICT	Frequency	Percentage
Educational CD/VCD	23	56%
Smart board	7	17%
Blog	4	10%
Other	8	20%

4.2.2 Descriptive Statistics for Perceived Usefulness of ICT

Table 7 shows the distribution of responses and summary statistics of survey items associated to perception of usefulness of ICT (questionnaire items 1-11). Top three items with highest mean score are create various learning activities (M=3.78), make learning process more effective (M=3.73), and make learning process more interesting and enjoyable (M=3.73). It should be noted that items related to "doesn't benefit me as a teacher" and "doesn't help me learn new skills" are negative items so I need to reverse the scores in order to obtain the total (mean) score to represent the construct of perceived usefulness of ICT. The (new) computed mean scores for negative items with reverse-scoring are 3.24 and 3.44, respectively.

Table 7

Descriptive Statistics for Perceived Usefulness of ICT

		Distribution of responses (%)*				Summary Statistics	
No	Survey item	SD (1)	D (2)	A (3)	SA (4)	Mean	sd
1	The use of ICT in the EFL classroom can make learning process more effective.	-	-	11 (27%)	30 (73%)	3.73	0.45

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
2	The use of ICT in the EFL classroom can increase students' motivation.	-	1 (2%)	12 (29%)	28 (68%)	3.66	0.53
3	The use of ICT in the EFL classroom can foster positive attitudes of students towards learning.	-	1 (2%)	15 (37%)	25 (61%)	3.59	0.55
4	The use of ICT in the EFL classroom can make learning activities more interesting and enjoyable.	-	1 (2%)	9 (22%)	31 (76%)	3.73	0.50
5	The use of ICT in the EFL classroom will enable students to become active students.	-	1 (2%)	16 (39%)	24 (59%)	3.56	0.55
6	The use of ICT in the EFL classroom can create various learning activities.	-	1 (2%)	7 (17%)	33 (80%)	3.78	0.47
7	The use of ICT in the EFL classroom can make the students have a better understanding of how technology affects their lives.	-	-	16 (39%)	25 (61%)	3.61	0.49

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
8	The use of ICT in the EFL classroom does not benefit me as a teacher.	15 (37%)	23 (56%)	1 (2%)	2 (5%)	1.76	0.73
9	The use of ICT in the EFL classroom is as important as the use of textbooks for students.	-	6 (15%)	16 (39%)	19 (46%)	3.32	0.72
10	The use of ICT in the EFL classroom can improve my teaching performance.	-	1 (2%)	16 (39%)	24 (59%)	3.56	0.55
11	The use of ICT in the EFL classroom does not help me learn new skills.	20 (49%)	19 (46%)	2 (5%)	-	1.56	0.59

*SD = Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, sd=Standard Deviation.

4.2.3 Descriptive Statistics for Perceived Ease of Use of ICT

Table 8 shows the distribution of responses and summary statistics of survey items associated with perception of ease of use of ICT (questionnaire items 12-20). In general, respondents have high perception of easiness in using ICT. Top three items with highest mean score are convenient for documentation storing (M=3.68), easy to explain the concept (M=3.41) and convenience in communication (M=3.34). One item related to "has caused a lot of technical problems" is also a negative item so I needed to reverse the scores in order to obtain the total (mean) score to represent the construct of perceived ease of use of ICT. The (new) computed mean scores after reversing the score is 2.49.

Table 8

Descriptive Statistics for Perceived Ease of Use of ICT

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
1	The use of ICT in the EFL classroom is quite easy and is not troublesome.	-	9 (22%)	27 (66%)	5 (12%)	2.90	0.58
2	The use of ICT in the EFL classroom makes the provision of access to learning resources convenient.	-	1 (2%)	27 (66%)	13 (32%)	3.29	0.51
3	The use of ICT in the EFL classroom makes it easy for teachers to explain the concept studied in the lesson.	-	3 (7%)	18 (44%)	20 (49%)	3.41	0.63
4	The use of ICT in the EFL classroom provides convenience in monitoring students' learning progress.	-	5 (12%)	26 (63%)	10 (24%)	3.12	0.60
5	The use of ICT in the EFL classroom makes it convenient to control the students' activities.	-	9 (22%)	19 (46%)	13 (32%)	3.10	0.74

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
6	The use of ICT in the EFL classroom makes it convenient to assess the students' progress.	-	6 (15%)	19 (46%)	16 (39%)	3.24	0.70
7	The use of ICT in the EFL classroom makes it convenient to store teachers' and students' documents.	-	-	13 (32%)	28 (68%)	3.68	0.47
8	The use of ICT in the EFL classroom has caused a lot of technical problems.	2 (5%)	19 (46%)	17 (41%)	3 (7%)	2.51	0.71
9	The use of ICT in the EFL classroom provides convenience in communication.	-	3 (7%)	21 (51%)	17 (41%)	3.34	0.62

*SD = Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, sd=Standard Deviation.

4.2.4 Descriptive Statistics for Educational Benefit

Table 9 shows the distribution of responses and summary statistics of survey items associated to motivation for educational benefit (questionnaire items 21-26). In general, respondents have high motivation for educational benefit with all items having mean score above 3. Providing an opportunity to follow the latest information was rated the highest (M=3.61), followed by preparing students for their future careers (M=3.59) and providing opportunities to study new things (M=3.59).

Table 9

Descriptive Statistics for Educational Benefit

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
1	The use of ICT in the EFL classroom can facilitate student-centred learning.	-	2 (5%)	20 (49%)	19 (46%)	3.41	0.59
2	The use of ICT in the EFL classroom can prepare students for their future careers.	-	2 (5%)	13 (32%)	26 (63%)	3.59	0.59
3	The use of ICT in the EFL classroom provides an opportunity to improve the quality of my teaching.	-	2 (5%)	17 (41%)	22 (54%)	3.49	0.60
4	The use of ICT in the EFL classroom can improve students' understanding.	-	2 (5%)	19 (46%)	20 (49%)	3.44	0.59
5	The use of ICT in the EFL classroom provides an opportunity to follow the latest information.	-	-	16 (39%)	25 (61%)	3.61	0.49
6	The use of ICT in the EFL classroom can provide opportunities to study new things.	-	-	17 (41%)	24 (59%)	3.59	0.50

*SD = Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, sd=Standard Deviation.

4.2.5   Descriptive Statistics for Impact on Teaching

Table 10 shows the distribution of responses and summary statistics of survey items associated to motivation for impact on teaching (questionnaire items 27-32). In general, respondents also have high motivation for impact on teaching with all items having mean score above 3. Top three items with the largest mean score are make learning more meaningful (M=3.46), develop teacher's pedagogical abilities (M=3.44), and improve the quality of students learning (M=3.41).

Table 10

Descriptive Statistics for Impact on Teaching

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
1	The use of ICT in the EFL classroom can contribute to making students work more actively by promoting problem-based learning.	-	2 (5%)	25 (61%)	14 (34%)	3.29	0.56
2	The use of ICT in the EFL classroom can inspire and help students express themselves.	1 (2%)	3 (7%)	17 (41%)	20 (49%)	3.37	0.73
3	The use of ICT in the EFL classroom can improve the quality of students learning.	-	2 (5%)	20 (49%)	19 (46%)	3.41	0.59
4	The use of ICT in the EFL classroom can make learning more meaningful.	-	-	22 (54%)	19 (46%)	3.46	0.50

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
5	The use of ICT in the EFL classroom can develop teacher's pedagogical abilities.	-	-	23 (56%)	18 (44%)	3.44	0.50
6	The use of ICT in the EFL classroom can increase self-confidence.	-	4 (10%)	20 (49%)	17 (41%)	3.32	0.65

*SD = Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, sd=Standard Deviation.

4.2.6   Descriptive Statistics for Self-efficacy

Table 11 shows the distribution of responses and summary statistics of survey items associated with motivation for self-efficacy (questionnaire item 33-37). In general, respondents also have high motivation for self-efficacy with all items having mean score above 3. Believing in their ability and knowledge to use ICT in learning activities was rated the highest with mean score of 3.54.

Table 11

Descriptive Statistics for Self-efficacy

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
1	I believe in my ability and knowledge to use ICT in learning activities in the EFL classroom	-	1 (2%)	17 (41%)	23 (56%)	3.54	0.55

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
2	I like to use ICT in my learning activities in the EFL classroom because I am certain that I can get good results and benefits	-	1 (2%)	20 (49%)	20 (49%)	3.46	0.55
3	I am able to search, evaluate and choose ICT devices that are appropriate to support my learning activities in the EFL classroom	-	-	23 (56%)	18 (44%)	3.44	0.50
4	I have certain strategies to solve problems and obstacles with the use of ICT in the EFL classroom	-	3 (7%)	27 (66%)	11 (27%)	3.20	0.56
5	I am sure that I can continue to integrate ICT in my learning activities in the EFL classroom in the future	-	1 (2%)	19 (46%)	21 (51%)	3.49	0.55

*SD = Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, sd=Standard Deviation.

4.2.7 Descriptive Statistics for Training Attended

Table 12 shows the distribution of responses and summary statistics of survey items associated to motivation for training attended (questionnaire items 38-40). In general, respondents also have high motivation for training attended with all items having mean score above 3. All teachers and

prospective teachers must attend training on the use of ICT in the EFL classroom was rated the highest with mean score of 3.39.

Table 12

Descriptive Statistics for Training Attended

No	Survey item	Distribution of responses (%)*				Summary Statistics	
		SD (1)	D (2)	A (3)	SA (4)	Mean	sd
1	The trainings held by the university made me motivated to use ICT in learning activities in the EFL classroom.	1 (2%)	2 (5%)	20 (49%)	18 (44%)	3.34	0.69
2	I need more trainings on how to use ICT in learning activities in the EFL classroom.	-	3 (7%)	26 (63%)	12 (29%)	3.22	0.57
3	All teachers and prospective teachers must attend trainings on the use of ICT in the EFL classroom.	1 (2%)	2 (5%)	18 (44%)	20 (49%)	3.39	0.70

*SD = Strongly Disagree, D=Disagree, A=Agree, SA=Strongly Agree, sd=Standard Deviation.

4.2.8   Reliability of Survey Instrument

The perceived usefulness of ICT subscale consists of 11 items with the calculated Cronbach's Alpha of 0.888, the perceived ease of use consists of 9 items with the calculated Cronbach's Alpha of 0.836, the motivation for educational benefit subscale consists of 6 items with the calculated Cronbach's Alpha of 0.880, the motivation for the impact on teaching consists of 6

items with the calculated Cronbach's Alpha of 0.905, self-efficacy subscale consists of 5 items with the calculated Cronbach's Alpha of 0.835, and, the training attended subscale consists of 3 items with the calculated Cronbach's Alpha of 0.499. The resulting Cronbach's Alpha of internal consistency for all items are very satisfactory and demonstrate strong internal consistency since all exceeds the recommended value, i.e., they are all above 0.7 but with the exception of training attended. With high internal consistency I can calculate composite scores to represent the factors that will be used in conducting t-test or ANOVA. Careful interpretation for training attended is required since it has relatively low internal consistency. I achieved that through incorporating a number of different questions assessing training attended to increase the reliability of the results. Moreover, I kept the testing environment consistent for all participants, meaning that all participants were administered the same survey with the same questions on training attendance. Table 13 summarises these estimates of Cronbach's Alpha coefficients.

Table 13

Cronbach's Alpha Coefficients

Factor	Number of items	Cronbach's Alpha
Perceived usefulness of ICT	11	0.888
Perceived ease of use	9	0.836
Educational benefit	6	0.880
Impact on teaching	6	0.905
Self-efficacy	5	0.835
Training attended	3	0.499

4.2.9 Testing Teacher Data for Interacting Variables

Table 14 presents summary statistics for all factors by age group of respondents. Older people tend to rate higher for all factors. However, these differences are not statistically significant as can be seen from the t-test results since the p-values are not less than 0.05 except for training attended. The mean scores of motivation for training attended are found significantly different

between people aged below 40 years and above 40 years since the p-value is less than 0.05 (t(39)=-2.370,p=0.023).

Table 14

Significance Test for Mean Differences by Age Group

Factor	Age (years)	N	Mean	SD	t-test t	df	p-value
Perceived usefulness of ICT	≤40	20	3.48	0.36	-1.436	39	0.159
	>40	21	3.65	0.40			
Perceived ease of use of ICT	≤40	20	3.12	0.41	-0.905	39	0.371
	>40	21	3.23	0.41			
Educational Benefit	≤40	20	3.47	0.48	-0.750	39	0.458
	>40	21	3.57	0.41			
Impact on Teaching	≤40	20	3.28	0.48	-1.268	39	0.212
	>40	21	3.48	0.50			
Self-efficacy	≤40	20	3.30	0.45	-1.899	39	0.065
	>40	21	3.54	0.36			
Training Attended	≤40	20	3.15	0.44	-2.370	39	0.023
	>40	21	3.48	0.44			

*N= Total number of cases, SD=Standard deviation, t=The sample value, df=Degrees of freedom.

Table 15 presents summary statistics for all factors by respondent's nationality. Non-Saudi tend to rate higher for all factors as compared to Saudi. However, these differences are not statistically significant for perceived usefulness of ICT (t(39)=-1.245, p=0.221), perceived ease of use of

ICT(t(39)=-1.440, p=0.158), and motivation for educational benefit (t(39)=-1.455, p=0.154) since p-values are greater than 0.05. Mean differences between Saudi and Non-Saudi are found for motivation for impact on teaching (t(39)=-2.510, p=0.016), self-efficacy (t(39)=-2.584, p=0.014), and training attended (t(39)=-2.782, p=0.008).

Table 15

Significance Test for Mean Differences by Nationality

					t-test		
Factor	Nationality	N	Mean	SD	t	df	p-value
Perceived usefulness of ICT	Saudi	16	3.47	0.37	-1.245	39	0.221
	Non-Saudi	25	3.63	0.40			
Perceived ease of use of ICT	Saudi	16	3.06	0.30	-1.440	39	0.158
	Non-Saudi	25	3.25	0.46			
Educational Benefit	Saudi	16	3.40	0.45	-1.455	39	0.154
	Non-Saudi	25	3.60	0.43			
Impact on Teaching	Saudi	16	3.16	0.39	-2.510	39	0.016
	Non-Saudi	25	3.53	0.50			
Self-efficacy	Saudi	16	3.23	0.42	-2.584	39	0.014
	Non-Saudi	25	3.55	0.38			
Training Attended	Saudi	16	3.08	0.45	-2.782	39	0.008
	Non-Saudi	25	3.47	0.42			

*N= Total number of cases, SD=Standard deviation, t=The sample value, df=Degrees of freedom.

Table 16 presents summary statistics for all factors by respondent's highest academic qualification. In general, those who hold Master degree show higher mean scores for all factors as compared to MPhil/PhD. However, these differences were found to be insignificant for all factors since the p-values are above 5% level.

Table 16

Significance Test for Mean Differences by Highest Academic Qualification

Factor	Highest Academic Qualification	N	Mean	SD	t-test		
					t	df	p-value
Perceived usefulness of ICT	Master	26	3.57	0.39	0.046	34	0.964
	MPhil/PhD	10	3.56	0.32			
Perceived ease of use of ICT	Master	26	3.21	0.40	0.953	34	0.347
	MPhil/PhD	10	3.07	0.35			
Educational Benefit	Master	26	3.58	0.45	1.391	34	0.173
	MPhil/PhD	10	3.35	0.40			
Impact on Teaching	Master	26	3.41	0.53	0.763	34	0.451
	MPhil/PhD	10	3.27	0.44			
Self-efficacy	Master	26	3.45	0.42	1.278	34	0.210
	MPhil/PhD	10	3.26	0.38			
Training Attended	Master	26	3.32	0.48	0.486	34	0.630
	MPhil/PhD	10	3.23	0.50			

*N= Total number of cases, SD=Standard deviation, t=The sample value, df=Degrees of freedom.

Table 17 presents summary statistics for all factors by respondent's teaching highest academic qualification. In general, those who have TESOL/EFL teaching certificate/diploma tend to give higher rating among all factors than those who have teaching training certificate. These mean differences are found to be statistically significant in perception of usefulness of ICT since the p-value is less than 0.05 (t(23)=2.338,p=0.028). Other factors show no significant differences since the p-values are greater than 0.05.

Table 17

Significance Test for Mean Differences by Respondents' Teaching Qualification

Factor	Teaching Qualification	N	Mean	SD	t-test		
					t	df	p-value
Perceived usefulness of ICT	TESOL/EFL	19	3.66	0.33	2.338	23	0.028
	Teacher training	6	3.26	0.49			
Perceived ease of use of ICT	TESOL/EFL	19	3.27	0.35	1.344	23	0.192
	Teacher training	6	3.04	0.47			
Educational Benefit	TESOL/EFL	19	3.67	0.37	1.593	23	0.125
	Teacher training	6	3.36	0.52			
Impact on Teaching	TESOL/EFL	19	3.55	0.46	1.330	23	0.197
	Teacher training	6	3.25	0.57			
Self-efficacy	TESOL/EFL	19	3.48	0.42	0.814	23	0.424
	Teacher training	6	3.30	0.67			
Training Attended	TESOL/EFL	19	3.47	0.42	0.676	23	0.505

Factor	Teaching Qualification	N	Mean	SD	t-test		
					t	df	p-value
	Teacher training	6	3.33	0.52			

*N= Total number of cases, SD=Standard deviation, t=The sample value, df=Degrees of freedom.

Table 18 presents summary statistics for all factors by whether respondents have attended workshop on ICT use. Respondents who have attended workshop on ICT use generally give lower rating score to all factors than those who have not attended. These differences are found to be statistically significant only for perception of ease of use of ICT (t(39)=-2.099,p=0.042) and motivation for educational benefit (t(39)=-2.135,p=0.039). Other factors such as perception on usefulness of ICT, motivation for impact on teaching, self-efficacy, and training attended are not statistically significant since the p-values are greater than 0.05.

Table 18

Significance Test for Mean Differences by Attending Workshop on ICT Use

Factor	Attending ICT workshop	N	Mean	SD	t-test		
					t	df	p-value
Perceived usefulness of ICT	Yes	34	3.54	0.40	-0.818	39	0.418
	No	7	3.68	0.35			
Perceived ease of use of ICT	Yes	34	3.12	0.40	-2.099	39	0.042
	No	7	3.46	0.37			
Educational Benefit	Yes	34	3.46	0.43	-2.135	39	0.039
	No	7	3.83	0.37			

					t-test		
Factor	Attending ICT workshop	N	Mean	SD	t	df	p-value
Impact on Teaching	Yes	34	3.36	0.51	-0.694	39	0.492
	No	7	3.50	0.38			
Self-efficacy	Yes	34	3.42	0.44	-0.223	39	0.825
	No	7	3.46	0.36			
Training Attended	Yes	34	3.31	0.49	-0.100	39	0.921
	No	7	3.33	0.38			

*N= Total number of cases, SD=Standard deviation, t=The sample value, df=Degrees of freedom.

Table 19 presents summary statistics for all factors by teaching experience. The means vary between different teaching experiences. ANOVA is performed to test whether these differences are significant or not. The results indicate that there are no significant differences between the means since the p-value are above 0.05.

Table 19

Significance Test for Mean Differences by Respondents' Teaching Experience

					ANOVA			
Factor	Teaching Experience	N	Mean	SD	df1	df2	F	p-value
Perceived usefulness of ICT	<10years	13	3.48	0.38	3	37	0.387	0.763
	11-15 years	12	3.60	0.37				
	16-20 years	6	3.68	0.37				

Factor	Teaching Experience	N	Mean	SD	ANOVA			
					df1	df2	F	p-value
	20+ years	10	3.56	0.46				
Perceived ease of use of ICT	<10years	13	3.13	0.38	3	37	0.097	0.961
	11-15 years	12	3.21	0.43				
	16-20 years	6	3.17	0.40				
	20+ years	10	3.20	0.48				
Educational Benefit	<10years	13	3.47	0.45	3	37	0.421	0.739
	11-15 years	12	3.57	0.49				
	16-20 years	6	3.67	0.30				
	20+ years	10	3.43	0.48				
Impact on Teaching	<10years	13	3.24	0.47	3	37	1.242	0.309
	11-15 years	12	3.53	0.51				
	16-20 years	6	3.58	0.43				
	20+ years	10	3.27	0.50				
Self-efficacy	<10years	13	3.23	0.46	3	37	1.489	0.234
	11-15 years	12	3.55	0.40				
	16-20 years	6	3.43	0.29				
	20+ years	10	3.52	0.42				

Factor	Teaching Experience	N	Mean	SD	ANOVA			
					df1	df2	F	p-value
Training Attended	<10years	13	3.10	0.52	3	37	2.060	0.122
	11-15 years	12	3.42	0.35				
	16-20 years	6	3.22	0.40				
	20+ years	10	3.53	0.48				

*N= Total number of cases, SD=Standard deviation, df1=Number of treatment levels, df2=Number of groups, F=F-value.

4.2.10 Analysis of Qualitative Data from Teacher Questionnaire

4.2.10.1 Overview.

The responses to open ended questions in the questionnaire provided useful insights into Saudi e-EFL teachers' experiences of using ICTs in EFL teaching and learning and their beliefs about teacher role and student-centred learning as well as their views of self-directed/heutagogical learning by the e-EFL learners in the research setting. The responses addressed four key questions inquiring into i) obstacles in integrating ICTs into EFL teaching and learning, ii) devolving responsibility for learning to the learners, iii) student-centred learning and impact on loss of teacher 'authority' and iv) learner initiative and heutagogical learning.

4.2.10.2 Obstacles in Integrating ICTs into E-EFL Teaching and Learning.

When the participating teachers were asked if they faced any obstacles in integrating ICTs into EFL teaching and learning, they highlighted a host of issues. These ranged from technical issues and pedagogical issues to issues pertaining to student attitudes and motivation.

Technical issues

A number of e-EFL teachers participating in the study reported that they faced many technical issues in delivering ICT-integrated EFL learning, ranging from poor Internet connectivity and speed, lack of Internet access to device failure. Poor Internet connectivity and slow speed seemed to be an issue faced by many of the e-EFL teachers endeavouring to deliver ICT-integrated

learning in the EFL classroom. For instance, a number of participants noted that Internet connectivity or Internet speed available in the e-EFL classroom was 'weak' or the speed was 'slow', thus breaking the 'momentum' of the classes. As the teacher participants observed in the extracts below:

Weak internet connectivity can cause problems.

Sometimes Internet speed can affect the learning process

Low speed Internet / slow connection (sometimes)

[It is a challenge] when there is disruptions in internet connectivity during class time

Sometimes we face technical and network issues which interrupts our teaching and break the momentum.

Rarely it just so happens, that the network connection is slow, thereby hindering the flow of teaching using the PPTs and so forth.

Some of the teachers reported facing login and connection issues which made it difficult to implement online activities or impeded 'live online participation'. The participants observed that:

Most of these ICT tools require internet connection, and sometimes the connection is unstable which affects the activity.

Technical problems: Live online participation may not be possible due to internet connection issues in campus

In other cases, the teacher participants were challenged by a 'lack of Internet access', lack of 'network' and dearth of 'computers and projectors'. The participating teachers also reported a lack of devices or malfunction of available functions. Some of them noted that the equipment was low tech or inadequately maintained:

Computer doesn't have a strong processor as it wasn't a requirement in the beginning

[There was] old equipment and lack of maintenance

Teacher-related issues

Some of the issues in regard to the challenges experienced by the e-EFL teachers in delivering ICT-integrated learning were linked to the teacher factors. As the data extracts below show, these included their ICT expertise and ability to help students troubleshoot ICT related problems, experiencing of screen fatigue and lack of control over learners' attitudes in class.

When facing technical issues, it is sometimes hard to instruct students on how to solve those issues

[The teachers reported] screen fatigue

[The teachers reported] not being able to have control over the students' attitudes and participation in class.

Student related issues

Data analysis of open-ended questionnaire data also showed that there were a number of student-related issues in delivering ICT-integrated EFL learning identified by the participating teachers. These ranged from the students' lack of ICT knowledge, poor attitudes towards ICT-integrated EFL activities and lack of motivation. For instance, the teachers reported that not only was there a 'lack of ICT knowledge and training amongst students' but also a 'lack of motivation and activity amongst students' with many learners viewing [ICT-integrated] activities as a waste of time [and] opting to shortening the class time instead'. The teachers observed that 'not all students are involved actively in class' and that 'plagiarism' in student work was also evident.

Coping with obstacles when using ICT in teaching and learning activities in the e-EFL classroom

When faced with obstacles in using ICT in EFL teaching/learning, the participating e-EFL teachers reported that they were happy to bring in their own devices or to share their 'own internet connection' with the learners or to 'connect to hotspot on [own] mobile phone'. Many of the e-EFL teachers talked about having a backup plan or using 'old school materials' and 'book and blackboard' in case of technology failure. Some of the participants stressed the importance of being prepared for everything beforehand and 'bring[ing] with me extra materials (papers) in case there was not an internet connection'. The teachers also kept a 'troubleshooting file on hand', learnt from 'shared PowerPoint videos and sharing experience' and consulted the university's 'technical assistance staff'. At times of online activity failure, 'alternate resources like WhatsApp' were used to cope with any ICT-related obstacles and to carry on with the e-EFL learning. One of the teacher participants also reported 'changing the style and method of teaching [so that] it could be either teacher centred or [making] use of other app' in order to cope with obstacles to ICT integrated classroom activity.

4.2.10.3 Devolving Responsibility for Learning to the Learners.

When the teachers were asked whether they were happy about devolving responsibility to the learners for their own learning, they talked about the issue in practical terms as well as in terms

of what it implied for the e-EFL learners' learning processes and outcomes. For instance, as the extracts below show, some of the teachers viewed 'devolving responsibility' as allowing learner to undertake problem-solving, doing group work, working out solutions on their own and applying cooperative learning strategies in the e-EFL class:

> They are allowed to do some problem solving by themselves through task based learning approach which also promotes autonomy among them.

> Ask them to do some tasks, doing group work

> Having them into groups with a leader

> [The teachers] place them in groups

> [The teachers devolve responsibility] by using cooperative learning strategies

> [The teachers devolve responsibility] by assigning roles and keep changing the roles of the students

> Giving tasks in groups, giving different positions in relation to their tasks such as Group leaders, reporter, editor and writers etc.

To promote learner autonomy, the e-EFL teachers let the learners 'assess each other and give feedback' and 'let them brainstorm for what would they like to do as an activity'. As one of the teachers observed, this allowed them to become 'responsible [for] learning and understanding the required task' and 'monitor[ing] their accomplishment and progress based on their results and performance'.

In other cases, teachers reported devolving responsibility by creating opportunities for the e-EFL learners to make decisions as to the topics for their speaking and writing tasks and forming their own groups, as the extract below show:

> They decide on topics for speaking and writing. Also forming their own groups by taking on responsibility for their work

Teachers also viewed devolving responsibility to the learners in terms of allowing them to seek out information for their projects and doing grammar and vocabulary activities via apps as a way to extend their learning, as evident in the extracts below:

> Students are allowed to search for information to complete their projects

> Yes, especially when it comes to doing activities on mobile applications (grammar or vocabulary)

The participating e-EFL teachers also felt that devolving responsibility to the learners involved giving them a chance to have a say in how learning was paced or to provide ideas for in-class activities. The teachers devolved responsibility 'by allowing students to have a say in the pacing of things' or 'by giving students a chance to suggest different ideas to conduct in-class activities'. The learners could also 'decide which program to use'. These ways to devolve responsibility suggest that the e-EFL teacher participants have a fairly sound understanding of devolving decision-making about the topic, design, mode and pace of class activities and the impact of this on learner autonomy. Further, the students in the research setting are given opportunities to have a say in their own learning, although the extent to which teachers make use of ICTs to do this appears to be limited. For instance, data analysis revealed only a couple of such concrete examples. This included helping learners become 'more responsible and aware of their learning process' with the help of WhatsApp. The teacher revealed that she had a student who was unable to participate in a final presentation due to poor Internet connectivity and thought of a way to resolve this issue. As the extract below shows, the student did this by recording her part of the presentation and sending it to the teacher via WhatsApp:

> I had a student who did not have an internet connection good enough to connect her device to do her final presentation. Otherwise, she'll lose grades. I asked her to think of possible solutions and inform me accordingly. She sent me a WhatsApp voice note of her part in the presentation.

In another example, the teacher used 'breakout group' [online learning] to foster learner autonomy, in addition to setting tasks that 'require[d] them to take the initiative and be proactive'.

Amongst the teachers, there was some awareness of the challenge of promoting learner autonomy due to student capacities and characteristics. For instance, as the teachers shared in the extracts below, not only did the students lack metacognition of what their own roles as learners were which led them to remain dependent on teachers but also the university fostered dependence by urging teachers to 'handle students in a way that is similar to babying them':

> I think our students are still unable to recognize what their role is; they are often too dependent on teachers. The solution might be to allow them the chance to be responsible and fend for themselves in certain things. However, my institution is somehow hesitant to do so. Teachers are asked to handle students in a way that is similar to that of babying them; students grow very dependent and unable to be responsible, which is an issue.

Another teacher felt that devolving responsibility to the learners in the research setting did not work as most of the learners wanted to be 'spoon-fed' in their learning, displayed low motivation, particularly in online classes and tended to be 'lazy' about participating in online discussions:

> With the type of students here in the ELI, it doesn't work much. They are mostly grumbling and want to be spoon-fed most of the time.

> Most of the students are very lowly motivated. Motivating them is the teacher's biggest struggle especially with online classes.

> Most of the students are lazy to participate in online discussions. Engaging them actively is the teacher's biggest struggle especially in online classes.

The participating teachers believed that 'devolving responsibility was important for enhancing learners' autonomy and they had a good sense of how taking charge of their own learning could help the e-EFL learners. As the extract below show, the learners learnt to become more responsible towards fulfilling their learning goals and they were in their 'comfort zone' when learning autonomously:

> When learners take ownership of learning, they tend to be more responsible towards achieving objectives. Hence, students are asked to form their own groups, create presentations or complete projects so as to develop student autonomy.

> They can do it in their comfort zone

However, only one teacher made a link between deploying 'different ICT methods [to] give the teacher the ability to give learners some control through different assignments'. As the analysis above shows, the participating teachers are aware of the importance of fostering learner autonomy and how it can help them become more self-regulated and responsible. Many of them also use several concrete strategies for enabling learners to have a say in their learning. However, analysis of data shows that only a single teacher made the link between 'devolving responsibility' and using ICTs to help learners more self-regulated and responsible and to undertake heutagogical learning.

4.2.10.4 Student-centred Learning and Impact on Loss of Teacher 'Authority'.

When questioned as to whether student-centred learning impacted their authority as teachers, the e-EFL teachers tended to share the view that teachers were an indispensable part of the equation of EFL learning and student-centred learning could not undermine their authority. As the

extract below shows, there was an awareness that the teacher's role was not to be an 'authority' but rather to provide the 'tools and means' to help the learners grow:

> My authority as a teacher will not be diminished because my students are able to study and acquire knowledge autonomously. I don't think my role is to be an "authority," it's to facilitate and equip them with tools and means by which they can learn and grow. English in its essence is a mean of communication, acquiring it is not the end goal, it's simply the mean to a bigger goal, which is knowledge. The fact they can flourish in a student-centred class is great.

As the extracts below show, the teachers felt that even when they played a facilitative role, the EFL learners looked to them for direction and for guidance:

> The teacher always needs to be present as a facilitator.

> No, because teacher teaching and students learning is separate and the most important teaching method

> Not really because they need teacher to facilitate and direct them and with the presence of the teacher, the students feel comfortable and secured in learning as problems can be thrashed out immediately without any difficulties.

> A teacher's role is pivotal and she's always the facilitator in all learning situations and settings.

> There must still be some kind of authority and guides for successful learning.

Analysis of data showed that the e-EFL teachers viewed the role of the teacher in student-centred learning as maximising the students' potential rather than exerting their authority and the former was contingent upon the positive participation of the learners in an in interactive classroom environments:

> I think being a teacher has more to do by bringing best in her students rather than having authority. The learners' achievement and progress is countable for teacher's success. The teachers goal is fulfilled only when her students participate positively and make class interactive.

The e-EFL teachers believed that teachers play a key role in motivating and providing feedback to learners, monitoring, guiding and evaluating them, helping learners become more confident, guiding the learning process and providing direction to learners:

> The teacher's role is primordial: he/she motivates and provides feedback

> Because I still believe in an environment such a classroom the teacher has always a valuable role whatsoever.

> What we are doing is giving the Ss more chances to develop independently and prepare them for the future but the teacher is always there to monitor, guide and evaluate.

> Student-centred learning can help in solving many issues in regard to learning and self-confidence.
> No matter how much student-centred is the class, the teacher never loses authority. the teacher is the main guide of the learning process.

> Because I never faced a case where students were able to do a task completely without my help or mentor, they have to get back to the instructor and at least check if they are doing the right thing or not

The participating e-EFL teachers appeared to clearly understand how playing their role created a productive environment which in turn enabled learners to develop skills for the future. As the extracts below show, the teachers were aware that student centred learning enabled the learners to learn on their own, evaluate themselves and direct their own learning processes, all key ways for students to become self-directed and heutagogical learners.

> Student-centred learning can never diminish the role of a teacher. In fact it puts the teacher at the helm where he/she facilitates learning and aims to create a more productive classroom environment, where students develop skills that will help them for their future lives.

> In fact, it allows students to act more responsibly and be their own boss in class. It also let them practice independent learning and self-assessment because students should be given control of their own-learning process.

The analysis of qualitative responses to this question shows that the e-EFL teachers participating in the study largely did not feel that student-centred learning undermined their 'authority' as teachers. They also showed awareness of what their roles in a student-centred learning environment, ranging from serving as guides, mentors and facilitators. None of the teachers made a link between their roles, the learning environment/goals and the role of ICTs which suggests limited awareness of how ICTs are aimed to facilitate student-centred learning.

4.2.10.5 Learner Initiative and Heutagogical Learning.

When asked whether they supported the idea of learners identifying their own learning needs, formulating learning goals, identifying suitable learning resources, implementing problem-solving strategies and reflecting upon their learning processes, the teachers were generally supportive. As the extracts below show, the teachers felt that the learners need to have a say in all the outlined choices and to take their own decisions:

> Learners can be allowed to make part of the above mentioned choices but all of the mentioned points cannot be left for the learners to decide for themselves. For being able to do that judiciously, the learners need to have a previous level of sophistication which is often missing.

> Yes, I agree because I want them to be independent in their approach, to understand their potential in difficult situations and be capable in taking right decisions when needed. Learning is all about being independent.

The teachers believed that 'this increase[d] their autonomy, which influenced their learning positively' and that 'students kn[e]w their needs more than us sometimes'. It was believed that the taking of initiative by learners 'boost[ed] students' self-esteem [and] improve[d] their study skills'. According to another teacher, 'it creat[ed] maturity. It gear[ed] them toward adult life and [made] them ready for workplace'. Another of the teacher participants felt that teaching learners to take the initiative got them 'ready for real life and career' and motivated and boosted their 'confidence and initiat[ed] lifelong learning'. As the extract from another teacher's qualitative response shows, taking initiative helped learners to become 'conscientious', 'identify their learning styles', 'take ownership of their learning' and to 'improve academic performance'. According to another teacher, it helped 'them to be responsible learners as well, because it can give them a space to express themselves and figure out their motivation and improve their needs'. In sum, as highlighted by one of the participants, it helped 'them become more independent [as] learners and increase[d] learner autonomy'.

However, despite a largely positive perception of helping e-EFL learners to 'get on with their learning' by taking the initiative and playing an active role in their learning voices, the analysis of open ended teacher data showed that the teacher participants had some reservations about moving students in the research setting towards heutagogical learning. It was agreed that heutagogical learning was desirable 'to some extent yes, but not completely [as] learners must have some freedom while learning that is according to their needs'. The reservations pertained to

the capacity of all learners to learn independently or to demonstrate requisite awareness or expertise. As one of the teacher respondents noted 'not all the students have the capabilities, therefore a teachers guidance is surely needed'. Another teacher observed that the 'ELI students are not yet up to that level of academic awareness and expertise'. One of the teacher participants felt that learners needed to be mature enough to identify their learning needs and goals, as evident in the extract below:

> Whereas it seems to be an effective approach to allow the learners to take the initiative to identify their learning needs, it requires certain maturity on the part of the learners to determine the above-mentioned needs and goals. Teacher oriented learning helps provide scaffolding or a foundation for future experiences.

Another teacher observed that while the course could be designed to help e-EFL learners take charge of certain aspects of their learning, not all learners were sufficiently cognisant of their pedagogical needs to move towards heutagogical learning, as reflected in the extract below:

> This can be done as part of the learning process. It can be a part of the designed course to allow students to take control of some aspects of their learning. However, it cannot be applicable to the whole course as the students are not fully aware of their pedagogical needs.

One of the responses to the question highlighted an important issue. As the following extract shows, while the participating teacher agreed that students should have an input in their learning process, she was not particularly clear about how such input would actually affect the process of learning:

> I'm not sure I understand the question, but I'd say that students should have the opportunity to have an "input" into the learning process. How much that input should actively affect the learning process is unclear to me.

In sum, the teacher participants generally favoured heutagogical learning on the part of the e-EFL learners. However, they believed that individual learners' capacities, maturity and their cognisance of their own pedagogical needs were important factors in determining whether or not the learners were prepared for taking charge of their own learning. The analysis of data also suggests that teachers did not necessarily make the link between EFL teaching/learning, ICTs and heutagogical learning.

4.3   Students' Data

In the student survey, the sample, n=343 was selected from a population of N=3,433 students from Jeddah University.

4.3.1   Demographic Variables

Table 20 shows the distribution of the 343 sample students according to various demographic variables. The results show that all respondents were Saudi Arabian female students and the majority of them (98.28%) were 18 to 25 years old. The sample was composed of Level One (38.97%) and Level Two (61.03%) students. In addition, more than half of them (226 or 64.76%) came from the Al-Faisaliah Branch.

Table 20

Demographic Profile of the Students

Demographic Variables	Frequency	Percentage
Age		
Below 18 years old	3	0.85%
18 to 25 years old	343	98.28%
Above 25 years old	3	0.85%
Nationality		
Saudi Arabia	349	100.00%
Non-Saudi Arabia	0	0.00%
Gender		
Male	0	0.00%
Female	349	100.00%
Level		

Demographic Variables	Frequency	Percentage
Level One	136	38.97%
Level Two	213	61.03%
Branch		
Al-Faisaliah	226	64.76%
Al-Salamah	96	27.51%
Al-Kamel	10	2.87%
Kulais	17	4.87%

Table 21 provides the behaviour of the students' access and usage of Internet and different e-learning technologies where the students pick all options that apply. Almost all of them (91.40%) used mobile phones and only 26 students (7.45%) used desktop computers when accessing the internet and e-learning technologies. Majority of them (88.54%) access the Internet at home. In addition, almost all of them use the Internet and e-learning technologies for the purpose of academic or coursework (94.84%) and social interaction (92.26%). Moreover, the majority of them (81.66%) have available virtual learning environments in their respective classrooms. On average, 157 students (44.99%) access e-learning technologies six (6) to ten (10) hours per week.

Table 21

Students' Access to and Use of Internet and E-learning Technologies

Indicators	Frequency	Percentage
Technology Devices Used		
Mobile	319	91.40%
Laptop	276	79.08%
Tablet	106	30.37%

Indicators	Frequency	Percentage
Desktop	26	7.45%
Internet Access		
At the university	236	67.62%
At home	309	88.54%
Public places	59	16.91%
On mobile devices	243	69.63%
Purpose of Technology/Internet Use		
Academic/coursework	331	94.84%
Entertainment	301	86.25%
Social interaction	322	92.26%
Correspondence	193	55.30%
ICTs Available in Classroom		
Mobile Learning Applications	203	58.17%
Virtual Learning Environments	285	81.66%
Smart Board	106	30.37%
Length of Using e-Learning Technologies per Week		
Less than 5 hours	133	38.11%
6 to 10 hours	157	44.99%
11 to 15 hours	29	8.31%

Indicators	Frequency	Percentage
16 to 20 hours	17	4.87%
Above than 20 hours	13	3.72%

4.3.2 Students' Perceptions and Attitudes Toward e-Learning

Table 22 shows the distribution of responses and summary statistics of survey items associated to perceptions of the students toward e-Learning (questionnaire items 11-20). The top three items with highest mean score were the indicators "Learning to use technology now will help me in my future job" (M=4.64), "Learning to use technology will help me learn in university" (M=4.36), and "I enjoy learning to use new kinds of technology (e.g., new apps)" (M=3.90). It should be noted that indicators "I am not comfortable using technology" and "Using technology to do activities does not help me learn in class" were negative items so I need to reverse the scores in order to obtain the total (mean) score to represent the construct of perceptions toward E-Learning. The (new) computed mean scores for negative items with reverse scoring were 3.69 and 3.65, respectively.

Table 22

Students' Perceptions Toward E-Learning

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean	sd
1	I am not comfortable using technology	23 (6.6%)	36 (10.3%)	78 (22.3%)	100 (28.7%)	112 (32.1%)	2.31	1.21
2	I often use technology in the classroom	57 (16.3%)	163 (46.7%)	58 (16.6%)	61 (17.5%)	10 (2.9%)	3.56	1.05
3	I enjoy using books, paper, and pen/pencil to learn	119 (34.1%)	96 (27.5%)	67 (19.2%)	42 (12%)	25 (7.2%)	3.69	1.25

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean	sd
4	I enjoy using laptops to learn	76 (21.8%)	100 (28.7%)	70 (20.1%)	72 (20.6%)	31 (8.9%)	3.34	1.27
5	I enjoy using tablets (e.g.,iPads) to learn	82 (23.5%)	104 (29.8%)	71 (20.3%)	68 (19.5%)	24 (6.9%)	3.44	1.23
6	I enjoy using phones to learn	74 (21.2%)	89 (25.5%)	52 (14.9%)	85 (24.4%)	49 (14%)	3.15	1.37
7	I enjoy learning to use new kinds of technology (e.g.,new apps)	119 (34.1%)	126 (36.1%)	68 (19.5%)	23 (6.6%)	13 (3.7%)	3.90	1.06
8	Using technology to do activities does not help me learn in class	18 (5.2%)	28 (8%)	88 (25.2%)	138 (39.5%)	77 (22.1%)	2.35	1.07
9	Learning to use technology will help me learn in university	178 (51%)	131 (37.5%)	32 (9.2%)	5 (1.4%)	3 (0.9%)	4.36	0.78
10	Learning to use technology now will help me in my future job	250 (71.6%)	82 (23.5%)	12 (3.4%)	1 (0.3%)	4 (1.1%)	4.64	0.67

*SA = Strongly Agree (mean of 1.00-1.50), A=Agree (mean of 1.51-2.50), NS=Not Sure (mean of 2.51-3.50), D=Disagree (mean of 3.51-4.50), SD=Strongly Disagree (mean of 4.51-5.00), sd=Standard Deviation.

Table 23 provides distribution of the students' attitudes toward e-learning (questionnaire items 21-30). Almost half of them enjoyed learning by using books or printed papers the most (40.97%), prefer to read information on phone during class (45.85%), prefer to write a paragraph or essay on laptop (41.55%), prefer to do infographic (such as a poster with facts and charts) on laptop (48.71%), and use phone to make a video (49.28%). The majority of them (75.93%) preferred to use phone while reading information outside of the classroom for fun. Moreover, 125 students (35.82%) prefer to use books or printed papers to do activities (such as English worksheets, math problems) during class. In general, less than half of them (40.11%) prefer to use phone for university. Moreover, more than half of them (71.92%) prefer usage of both whiteboards and electronic boards by their teachers to present information. Lastly, 232 students (66.48%) prefer learning both traditional (using books, paper, pencil, and others) and modernised (using laptops, tablets, phones and other electronic gadgets).

Table 23

Students' Attitudes Toward E-learning

Indicators	Frequency	Percentage
What do you enjoy learning through the most?		
Books/printed paper	143	40.97%
Laptop	70	20.06%
Tablet	83	23.78%
Phone	53	15.19%
What do you prefer to read information on outside of class for fun?		
Books/printed paper	31	8.88%
Laptop	17	4.87%
Tablet	36	10.32%
Phone	265	75.93%

Indicators	Frequency	Percentage
What do you prefer to read information on in class?		
Books/printed paper	116	33.24%
Laptop	25	7.16%
Tablet	48	13.75%
Phone	160	45.85%
What do you prefer to do in-class activities on (e.g., English worksheets, math problems)?		
Books/printed paper	125	35.82%
Laptop	100	28.65%
Tablet	59	16.91%
Phone	65	18.62%
What do you prefer to write a paragraph or essay on?		
Books/printed paper	63	18.05%
Laptop	145	41.55%
Tablet	44	12.61%
Phone	97	27.79%
What would you use to do an infographic (i.e., a poster with facts and charts) on?		
Books/printed paper	61	17.48%
Laptop	170	48.71%
Tablet	89	25.50%

Indicators	Frequency	Percentage
Phone	29	8.31%

What would you use to make a video on?		
Books/printed paper	0	0.00%
Laptop	105	30.09%
Tablet	72	20.63%
Phone	172	49.28%

In general, what do you prefer to use for university?		
Books/printed paper	37	10.60%
Laptop	120	34.38%
Tablet	52	14.90%
Phone	140	40.11%

Do you prefer your teachers to present information on....?		
Whiteboards	36	10.32%
Electronic boards	62	17.77%
Both	251	71.92%

Do you prefer learning with...?		
Books, paper, pencil	40	11.46%
Laptops, tablets, phones	77	22.06%
Both	232	66.48%

4.3.3 Students' Use and Experience of E-learning Technologies and Self-efficacy

Table 24 shows the distribution of responses and summary statistics of survey items associated to perception of goal commitment regulation (questionnaire items 31-33). In general, the students agree to the indicators of the goal commitment regulation (M=4.12) on the average. The indicator "ICTs are important sources and tools to maintain my interest in achieving my language learning goal" got a highest mean of 4.19 with verbal interpretation of "Agree" while the indicator "I believe ICTs can help me continue in reaching my ultimate goal in learning the language" got the lowest mean of 4.03 with verbal interpretation of "Agree".

Table 24

Descriptive Statistics for Perceived Goal Commitment Regulation

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
1	ICTs are important sources and tools to maintain my interest in achieving my language learning goal.	154 (44.1%)	127 (36.4%)	49 (14%)	17 (4.9%)	2 (0.6%)	4.19	0.89
2	I believe ICTs can help me continue in reaching my ultimate goal in learning the language	126 (36.1%)	143 (41%)	52 (14.9%)	22 (6.3%)	6 (1.7%)	4.03	0.96
3	I believe ICTs can help me achieve my language	149 (42.7%)	134 (38.4%)	43 (12.3%)	16 (4.6%)	7 (2%)	4.15	0.95

learning goals
more quickly and
efficiently.

Overall Mean	4.12

*SA = Strongly Agree (mean of 1.00-1.50), A=Agree (mean of 1.51-2.50), NS=Not Sure (mean of 2.51-3.50), D=Disagree (mean of 3.51-4.50), SD=Strongly Disagree (mean of 4.51-5.00), sd=Standard Deviation.

Table 25 shows the distribution of responses and summary statistics of survey items associated to perception of affective regulation. In general, the students agree to the indicators of the affective regulation (M=3.99) on the average. The respondents agree to the top three (3) indicators, which are "When I feel bored with learning the language, I use ICTs to decrease the boredom and increase the enjoyment", "I use ICTs to make the task of language learning more attractive to me", and "When I start to resist learning the language, I use ICTs to help myself regain the interest and enthusiasm" got means of 4.05, 3.99, and 3.98, respectively.

Table 25

Descriptive Statistics for Perceived Affective Regulation

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
1	I use ICTs to make the task of language learning more attractive to me.	126 (36.1%)	125 (35.8%)	72 (20.6%)	21 (6%)	5 (1.4%)	3.99	0.97
2	When I feel bored with learning the language, I use	140 (40.1%)	121 (34.7%)	60 (17.2%)	22 (6.3%)	6 (1.7%)	4.05	0.99

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
	ICTs to decrease the boredom and increase the enjoyment.							
3	When I start to resist learning the language, I use ICTs to help myself regain the interest and enthusiasm.	126 (36.1%)	127 (36.4%)	63 (18.1%)	28 (8%)	5 (1.4%)	3.98	1.00
4	I feel ICTs effectively maintain my interest and enthusiasm in learning the language.	117 (33.5%)	124 (35.5%)	75 (21.5%)	30 (8.6%)	3 (0.9%)	3.92	0.98
	Overall Mean						3.99	-

*SA = Strongly Agree (mean of 1.00-1.50), A=Agree (mean of 1.51-2.50), NS=Not Sure (mean of 2.51-3.50), D=Disagree (mean of 3.51-4.50), SD=Strongly Disagree (mean of 4.51-5.00), sd=Standard Deviation.

Table 26 shows the distribution of responses and summary statistics of survey items associated to perception of social connection regulation. In general, the students agree to the indicators of the social connection regulation (M=4.04) on the average. The respondents agree to the top three

(3) indicators, which are "ICTs help to make my language learning a relaxing process", "I use ICTs to connect with native speakers of the language", and "I use ICTs to connect with other learners all over the world" got means of 4.22, 4.07, and 4.07, respectively.

Table 26

Descriptive Statistics for Social Connection Regulation

| No | Indicators | Distribution of Responses (%)* | | | | | Summary Statistics | |
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
1	ICTs help to make my language learning a relaxing process.	152 (43.6%)	146 (41.8%)	30 (8.6%)	17 (4.9%)	4 (1.1%)	4.22	0.88
2	ICTs make me enjoy learning the language more.	121 (34.7%)	153 (43.8%)	44 (12.6%)	25 (7.2%)	6 (1.7%)	4.03	0.96
3	I use ICTs to increase the time I spend on learning the language.	110 (31.5%)	118 (33.8%)	81 (23.2%)	32 (9.2%)	8 (2.3%)	3.83	1.05
4	I use ICTs to connect with native speakers of the language.	139 (39.8%)	135 (38.7%)	42 (12%)	26 (7.4%)	7 (2%)	4.07	1.00

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
5	I use ICTs to connect with other learners all over the world.	140 (40.1%)	132 (37.8%)	48 (13.8%)	19 (5.4%)	10 (2.9%)	4.07	1.01
6	I use ICTs to search for encouragement and support from other learners of the language.	132 (37.8%)	130 (37.2%)	56 (16%)	21 (6%)	10 (2.9%)	4.01	1.02
	Overall Mean						4.04	

*SA = Strongly Agree (mean of 1.00-1.50), A=Agree (mean of 1.51-2.50), NS=Not Sure (mean of 2.51-3.50), D=Disagree (mean of 3.51-4.50), SD=Strongly Disagree (mean of 4.51-5.00), sd=Standard Deviation.

Table 27 shows the distribution of responses and summary statistics of survey items associated to perception of resource regulation. In general, the students agree to the indicators of the resource regulation (M=4.32) on the average. The respondents agree to the top three (3) indicators, which are "When I feel I need more learning resources in the language, I use ICTs to expand my resources", "I use ICTs to increase my learning experience outside the language classroom", and "I use ICTs to search for learning resources and opportunities to help achieve my goals" got means of 4.39,4.34, and 4.34, respectively.

Table 27

Descriptive Statistics for Resource Regulation

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
1	When I feel I need more learning resources in the language, I use ICTs to expand my resources.	183 (52.4%)	132 (37.8%)	25 (7.2%)	5 (1.4%)	4 (1.1%)	4.39	0.78
2	I use ICTs to increase my learning experience outside the language classroom.	176 (50.4%)	132 (37.8%)	28 (8%)	8 (2.3%)	5 (1.4%)	4.34	0.83
3	I use ICTs to search for learning resources and opportunities to help achieve my goals.	177 (50.7%)	129 (37%)	29 (8.3%)	11 (3.2%)	3 (0.9%)	4.34	0.83
4	I use ICTs to search for learning resources and opportunities to	160 (45.8%)	142 (40.7%)	35 (10%)	8 (2.3%)	4 (1.1%)	4.28	0.82

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
	help achieve my goals.							
5	I search for attractive language learning materials and experience delivered by ICTs.	164 (47%)	137 (39.3%)	35 (10%)	10 (2.9%)	3 (0.9%)	4.29	0.83
Overall Mean							4.32	-

*SA = Strongly Agree (mean of 1.00-1.50), A=Agree (mean of 1.51-2.50), NS=Not Sure (mean of 2.51-3.50), D=Disagree (mean of 3.51-4.50), SD=Strongly Disagree (mean of 4.51-5.00), sd=Standard Deviation.

Table 28 shows the distribution of responses and summary statistics of survey items associated to perception of metacognitive regulation. In general, the students agree to the indicators of the metacognitive regulation (M=4.11) on the average. The respondents agree to the top three (3) indicators, which are "For the areas that I am weak in, I know how to select and use appropriate ICTs to improve the areas", "I know how to use ICTs to effectively monitor myself to achieve the learning goals at each stage", and "I set sub-goals for the next stage of learning in the light of how much I can understand and produce when using ICTs to acquire information or communicate with others" got means of 4.32, 4.17, and 4.09, respectively.

Table 28

Descriptive Statistics for Metacognitive Regulation

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
1	For the areas that I am weak in, I know how to select and use appropriate ICTs to improve the areas.	172 (49.3%)	128 (36.7%)	39 (11.2%)	9 (2.6%)	1 (0.3%)	4.32	0.80
2	I know how to use ICTs to effectively monitor myself to achieve the learning goals at each stage	142 (40.7%)	151 (43.3%)	33 (9.5%)	18 (5.2%)	5 (1.4%)	4.17	0.90
3	I set sub-goals for the next stage of learning in the light of how much I can understand and produce when using ICTs to acquire information or communicate with others.	137 (39.3%)	129 (37%)	64 (18.3%)	16 (4.6%)	3 (0.9%)	4.09	0.91

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
4	I adjust my language learning goals using ICTs.	123 (35.2%)	131 (37.5%)	72 (20.6%)	18 (5.2%)	5 (1.4%)	4.00	0.95
5	I am satisfied with the way I use ICTs to help myself continue in reaching my learning goals..	129 (37%)	149 (42.7%)	47 (13.5%)	21 (6%)	3 (0.9%)	4.08	0.90
6	I plan learning tasks to do outside of university that involve the use of ICTs.	136 (39%)	126 (36.1%)	63 (18.1%)	21 (6%)	3 (0.9%)	4.07	0.94
7	I plan relevant materials to do outside of university that involve the use of ICTs.	132 (37.8%)	129 (37%)	61 (17.5%)	20 (5.7%)	7 (2%)	4.03	0.98
	Over-all Mean						4.11	-

*SA = Strongly Agree (mean of 1.00-1.50), A=Agree (mean of 1.51-2.50), NS=Not Sure (mean of 2.51-3.50),D=Disagree (mean of 3.51-4.50), SD=Strongly Disagree (mean of 4.51-5.00), sd=Standard Deviation.

Table 29 shows the distribution of responses and summary statistics of survey items associated to perception of culture regulation. In general, the students agree to the indicators of the culture regulation (M=4.34) on the average. The indicator "I use ICTs to search for answers to my questions about the language and culture" got a highest mean of 4.39 with verbal interpretation of "Agree" while the indicator "I use ICTs to help myself understand and appreciate the target culture better" got the lowest mean of 4.28 with verbal interpretation of "Agree".

Table 29

Descriptive Statistics for Culture Regulation

No	Indicators	Distribution of Responses (%)*					Summary Statistics	
		SA (5)	A(4)	NS (3)	D (2)	SD (1)	Mean*	sd
1	I use ICTs to help myself to increase my ability to interact with the target culture.	177 (50.7%)	133 (38.1%)	28 (8%)	8 (2.3%)	3 (0.9%)	4.36	0.79
2	I use ICTs to help myself understand and appreciate the target culture better.	167 (47.9%)	133 (38.1%)	33 (9.5%)	12 (3.4%)	4 (1.1%)	4.28	0.86
3	I use ICTs to search for answers to my questions about the language and culture.	179 (51.3%)	137 (39.3%)	24 (6.9%)	7 (2%)	2 (0.6%)	4.39	0.75
Overall Mean							4.34	

*SA = Strongly Agree (mean of 1.00-1.50), A=Agree (mean of 1.51-2.50), NS=Not Sure (mean of 2.51-3.50),D=Disagree (mean of 3.51-4.50), SD=Strongly Disagree (mean of 4.51-5.00), sd=Standard Deviation.

4.3.4 Reliability of Survey Instrument

Table 30 shows the scale and reliability statistics of the students' perception toward e-learning and the students' use and experience of e-learning technologies and self-efficacy. The students' perception toward e-learning consists of 11 items with the calculated Cronbach's Alpha of 0.939. The calculated Cronbach's Alphas of the goal commitment regulation with three (3) items, affective regulation with four (4) items, social connection regulation with six (6) items, resource regulation with five (5) items, metacognitive regulation with seven (7) items, and culture regulation with three (3) items are 0.865, 0.907, 0.875, 0.882, 0.909, and 0.849, respectively. The resulting Cronbach's Alpha of internal consistency for all items were very satisfactory and demonstrated strong internal consistency since all exceeds the recommended value. They are all above 0.7 but with the exception of the students' perception toward e-Learning. With high internal consistency, I can calculate composite scores to represent the factors that will be used in conducting t-test or analysis of variance (ANOVA). Careful interpretation for students' perception toward e-learning is required since it has relatively low internal consistency. Once again, I achieved that through incorporating a number of different questions assessing students' perception toward e-learning to increase the reliability of the results. Moreover, I kept the testing environment consistent for all participants, meaning that all participants were administered the same survey with the same questions on their perceptions regarding e-learning.

Table 30

Cronbach's Alpha Coefficients

Factor	Scale Statistics		Reliability Statistics	
	Mean	SD	No. of Items	Cronbach's Alpha
Students' perception toward e-Learning	36.05	4.30	10	0.439
Goal commitment regulation	12.37	2.48	3	0.865
Affective regulation	15.94	3.49	4	0.907
Social connection regulation	24.22	4.63	6	0.875

Resource regulation	21.62	3.37	5	0.882
Metacognitive regulation	28.76	5.14	7	0.909
Culture regulation	13.02	2.11	3	0.849

*SD=Standard Deviation

4.3.5 Test Student Data for Interacting Variables

Table 31 presents summary statistics and ANOVA for all factors when the respondents were grouped according to their age. Students whose age were less than 18 years old tend to rate higher for all factors. However, these differences were not statistically significant as can be seen from the ANOVA results since all the p-values were not less than the level of significant, which is 0.05.

Table 31

Significance Rest for Mean Differences by Age Group

		Summary Statistics			ANOVA	
Factor	Age (years)	N	Mean	SD	$F_{(2,346)}$	p-value
Students' perceptions toward e-Learning	< 18	3	3.83	0.67	0.424	0.655
	18 - 25	343	3.60	0.43		
	> 25	3	3.60	0.17		
Goal commitment regulation	<18	3	4.33	0.33	0.216	0.806
	18 - 25	343	4.12	0.83		
	>25	3	3.89	0.84		
Affective regulation	<18	3	4.33	0.52	1.862	0.157
	18 - 25	343	3.99	0.87		

Factor	Age (years)	Summary Statistics			ANOVA	
		N	Mean	SD	F(2,346)	p-value
	>25	3	3.08	0.88		
Social connection regulation	<18	3	4.17	0.60	0.146	0.864
	18 - 25	343	4.04	0.78		
	>25	3	3.83	0.76		
Resource regulation	<18	3	4.40	0.40	0.239	0.788
	18 - 25	343	4.33	0.68		
	>25	3	4.07	0.70		
Metacognitive regulation	<18	3	4.12	0.36	1.07	0.344
	18 - 25	343	3.81	0.74		
	>25	3	3.57	0.43		
Culture regulation	<18	3	4.44	0.51	0.654	0.521
	18 - 25	343	4.34	0.71		
	> 25	3	3.89	0.19		

*N= Total number of cases, SD=Standard deviation, F=F-value.

Table 32 presents summary statistics and t-test for all factors when the respondents were grouped according to level. Level Two students tend to rate higher compared to Level One students for all factors except social connection regulation and culture regulation. However, these differences were not statistically significant, as can be seen from the independent samples t-test results since all the p-values were not less than the level of significant, which is 0.05. Hence, there was no significant difference on all factors when the students are grouped according to their level.

Table 32

Significance Test for Mean Differences by Level Group

Factor	Level	Summary Statistics			Independent Samples t-test		
		N	Mean	SD	t	df	p-value
Students' perceptions toward e-Learning	Level One	136	3.55	0.48	-1.710	243.617	0.089
	Level Two	213	3.64	0.39			
Goal commitment regulation	Level One	136	4.07	0.88	-0.913	347	0.362
	Level Two	213	4.16	0.79			
Affective regulation	Level One	136	3.96	0.85	-0.415	347	0.678
	Level Two	213	4.00	0.88			
Social connection regulation	Level One	136	4.04	0.75	0.109	347	0.913
	Level Two	213	4.03	0.79			
Resource regulation	Level One	136	4.28	0.71	-1.106	347	0.269
	Level Two	213	4.36	0.65			
Metacognitive regulation	Level One	136	4.06	0.78	-1.053	347	0.293
	Level Two	213	4.14	0.70			
Culture regulation	Level One	136	4.34	0.72	-0.110	347	0.912
	Level Two	213	4.34	0.69			

*N= Total number of cases, SD=Standard deviation, t=The sample value, df= Degrees of freedom.

Table 33 presents summary statistics and ANOVA for all factors when the respondents are grouped according to their branch. The mean scores vary on all factors when the students were grouped according to their branch. Moreover, these differences were not statistically significant, as can be seen from the ANOVA results since all the p-values are not less than the level of significant, which is 0.05. Hence, there was no significant difference on all factors when the students are grouped according to their branch.

Table 33

Significance Test for Mean Differences by Branch Group

Factor	Branch	Summary Statistics			ANOVA	
		N	Mean	SD	F(3,345)	p-value
Students' perceptions toward e-Learning	Al-Faisaliah	226	3.59	0.44	0.492	0.688
	Al-Salamah	96	3.62	0.43		
	Al-Kamel	10	3.74	0.50		
	Kulais	17	3.64	0.31		
Goal commitment regulation	Al-Faisaliah	226	4.12	0.85	0.399	0.754
	Al-Salamah	96	4.09	0.82		
	Al-Kamel	10	4.37	0.60		
	Kulais	17	4.22	0.70		
Affective regulation	Al-Faisaliah	226	3.99	0.87	0.378	0.769
	Al-Salamah	96	4.02	0.88		
	Al-Kamel	10	3.78	1.04		
	Kulais	17	3.85	0.82		
	Al-Faisaliah	226	4.06	0.78	0.641	0.589

Factor	Branch	Summary Statistics			ANOVA	
		N	Mean	SD	F(3,345)	p-value
Social connection regulation	Al-Salamah	96	4.01	0.78		
	Al-Kamel	10	4.15	0.55		
	Kulais	17	3.81	0.82		
Resource regulation	Al-Faisaliah	226	4.35	0.71	0.733	0.533
	Al-Salamah	96	4.32	0.60		
	Al-Kamel	10	4.32	0.44		
	Kulais	17	4.09	0.75		
Metacognitive regulation	Al-Faisaliah	226	4.10	0.74	0.477	0.699
	Al-Salamah	96	4.17	0.74		
	Al-Kamel	10	4.11	0.69		
	Kulais	17	3.95	0.76		
Culture regulation	Al-Faisaliah	226	4.37	0.69	1.01	0.389
	Al-Salamah	96	4.33	0.71		
	Al-Kamel	10	4.33	0.50		
	Kulais	17	4.06	0.92		

*N= Total number of cases, SD=Standard deviation, F=F-value.

4.4 Summary

Applied to teacher questionnaire data, the significant test shows that the mean scores of motivation for training attended are significantly different between people aged below 40 years and above 40 years since the p-value is less than 0.05 (t(39)=-2.370,p=0.023).

The results of the test also show that those who have TESOL/EFL teaching certificate/diploma tend to give higher rating among all factors than those who have teaching training certificate.

These mean differences are found to be statistically significant in perception of usefulness of ICT since the p-value is less than 0.05 ($t(23) = 2.338, p=0.028$).

Further, the test shows that respondents who have attended workshop on ICT use generally give lower rating score to all factors than those who have not attended. However, these differences are found to be statistically significant only for perception of ease of use of ICT ($t(39)=-2.099, p=0.042$) and motivation for educational benefit ($t(39)=-2.135, p=0.039$).

When the Significant test was applied to student questionnaire data, it was found that level Two students tend to rate higher compared to Level One students for all factors except social connection regulation and culture regulation. However, these differences were not statistically significant, as can be seen from the independent samples t-test results since all the p-values were not less than the level of significant, which is 0.05. Hence, there was no significant difference on all factors when the students are grouped according to their level. There was also no significant difference on all factors when the students are grouped according to their branch.

The result of the specific predictive effects of perceived usefulness and perceived ease of use on ICT support and ICT use was supported as the findings revealed that the association between ICT support and ICT use was partial through the mechanisms of perceived usefulness and perceived ease of use. What this implies is that teachers' perceived usefulness and exposure to available ICT supports may not completely be the reason for its use or non-use. Rather, this may involve a combination of the activities involved in the use, their interest to use as well as the teachers' belief in their ability to use technology.

5   Discussion of the Data

5.1   Introduction

Adopting heutagogy as the theoretical framework for the current research, this study was aimed at gaining insights into Saudi university e-EFL teachers' deployment of digital technologies and e-EFL learners' experience of learning with ICT technologies with a view to understanding whether the use of ICT in the e-EFL classrooms hindered or promoted heutagogical learning. It has been suggested that Web 2.0 technologies (which allow users to create, share, work together and interact) align well with the heutagogical approach that promotes 'learner-generated content and learner self-directedness in information discovery and in defining the learning path' (Blaschke, 2012, p.2). Hence a heutagogical approach is believed to be responsive to developments within tertiary education as it enables learners to develop not just their competencies but also their capabilities and capacities to learn (Blaschke, 2012). In the context of the Saudi e-EFL university learners, the adoption of a heutagogical approach was viewed as helping learners to learn more effectively by promoting self-efficacy. The following sections will discuss the results from the teacher questionnaires and student questionnaires in relation to relevant literature in order to generate insights into the questions framing this study.

5.2   Demographic Profiles of the E-EFL Teachers

The teacher participants were all female, with the majority of the teachers being 31 years old. The sample comprised 39% Saudi nationals and 61% non-Saudi nationals. The vast majority of the participants (63%) had completed a Master's degree, while others had completed MPhil (5%), PhD (20%) or had other academic qualifications (12%). With regard to teaching qualifications, 46% of the teacher participants had attained a TESOL/EFL teaching certification, while 15% had received a teacher training certificate, and the remaining 39% possessed other certifications. In addition, a majority of the participants had attended workshops or training related to ICT use (83%), while 17% had not attended any workshop/training (see Table 5 for more details).

5.2.1   *Use of ICT Tools*

The teacher participants all made use of PowerPoint in their e-EFL classrooms, which was closely followed by a dominant use of E-mail (93%) and Virtual Learning Environments such as blackboard (90%). The participants also used technology for administering online quizzes (80%) and giving task/discussion materials using smartphone (78%). To a lesser extent, the participants

also made use of educational CD/VCD (56%) in the EFL classrooms. However, the ICT tools which were used the least included smartboards (17%), blogs (10%) and tools falling in Other category (20%).

To address the needs of a fast-growing population of university age learners and to cope with limited trained teaching faculty in KSA, the National E-learning and Distance Learning Centre (NELC) has provided multimedia resources to support teachers in integrating blended learning in their courses, in addition to a learning management system known as Jusur, which enables learners to access their homework, submit assignments, and participate in discussion boards for the course (Alebaikan & Troudi, 2010). The current study confirmed that the university e-EFL classrooms under discussion were well-equipped with a range of ICT tools, including power point, email, Virtual Learning Environments, online assessment, task instruction/discussion of materials via smartphone and educational CD/VCD. Smartboards were also available to the teachers but not utilised to the same extent as ICT tools such as power point, email or VLEs, for example. These findings are in line with earlier research examining Saudi language teachers' ICT use which found that teachers made widespread use of textbook CD and PowerPoint (Hammond & Gamlo, 2015). As reported in the current study, in earlier research, Hammond and Gamlo (2015, p.6) also found that only a 'minority' of teachers in their study 'pushed the use of ICT' [by creating] blogs to support learning outside the classroom, for example to provide opportunities for collaboration amongst students and to archive discussions and resources. The findings of the current study also align with wider research which have also reported a general tendency amongst e-EFL teachers to deploy ICT largely for word processing, power point and general applications (Hassanzadeh et al., 2012; Keengwe & Kang, 2013; Li & Ni, 2011; Park &Son, 2009).

5.2.2   *Perceptions of the Usefulness of ICT for E-EFL Teaching*

In terms of the perceived usefulness of ICT for e-EFL learning, most of the teachers viewed it as being helpful in creating learning activities (80%), useful for making learning activities more enjoyable (76%) and useful for making the learning process more effective (73%). An overwhelming majority of the teachers (93%) did not agree with the statement that ICT 'does not benefit me as a teacher', while a similar percentage (94%) disagreed with the statement that ICT 'does not help me learn new skills' (see Table 7 for more details). This suggests the positive perception of the role of ICT in benefitting their teaching and helping them learn new skills. In comparison with the more positive perceptions of the usefulness of ICT in helping them create learning activities, make activities more enjoyable and make the learning process more effective, the teachers accorded lower ratings to items that pertained to the role of ICT in enhancing learner

motivation (68%), fostering positive learner attitudes towards learning (61%) and developing students' understanding of the impact of technology on their lives (61%). The teachers also reported less positive perceptions of the role of ICT in enabling students to become active learners (59%) and its comparable usefulness with textbooks (46%). It is possible that the teachers in this study view ICT as being an adjunct to their teaching rather than tools for enabling the e-EFL learners to become active and self-determined learners. E-EFL teachers must be taught to 'overcome the view of technology simply as a commodity useful for solving given practical problems' (Forcheri & Molfino, 2000, p.177). Drawing upon Vrasidas and McIsaac (2001), Silviyanti and Yusuf (2015, p.31) observe that teachers with e-readiness are ready to use technology effectively when they understand that it is a tool for teachers and students alike.

Of the types of ICT predominantly used by teachers (PowerPoint, email, VLE, online quiz, task instruction/discussion of materials via smartphone and educational CD/VCD), only PowerPoint and educational CDs tend to be deployed directly in the class, whereas the use of smartboards which is a class-based ICT tool with considerable utility to the learners, in terms of creating a shared space for dialogue (Warwick et al., 2010) and engagement with and motivation towards task (Kitson et al., 2005), is found to be limited. This suggests that the ICT tools predominantly deployed in the classroom may not be as helpful to many of the learners as assumed (Table 6).

5.2.3   *Perceptions of the Ease of Use of ICT in Teaching E-EFL*

When surveyed on the perceived ease of use of the ICT tools available to them (Table 8), the highest scores were accorded to convenience in teacher documentation storage (68%), illustrative use for advancing the conceptual understanding of the learners (49%) and convenience in facilitating communication (41%). This suggests that the e-EFL teachers participating in the study primarily viewed ICT tools as being easy to use for document storage and convenience in communication and as an aid to their teaching. It is interesting to note that the scores for items pertaining to monitoring of learners' progress (24%), controlling their activities (32%) and assessing their progress (39%) were notably lower, thus suggesting a less positive perception of ease in using ICT to regulate learners' e-EFL learning beyond immediate instruction or functional uses such as document storage or communication with the learners. These results are in line with research which suggests that EFL teachers tend to use 'ICT applications as an aid to support their classroom instruction' (Dinh, 2015, p.22). For instance, in her grounded theory study of EFL teacher perceptions of ICT use in their classrooms, Kim (2008, p.241) found that the participants who were enrolled in teacher education programs as well as certificate programs in

educational technology tended to perceive ICT as 'supplemental and instructional tool in their language classrooms' with their perceptions of Computer Assisted Language Learning being based on 'a teacher-centred paradigm'. The participants in Kim's study viewed 'computers as a resource, a tool for tutoring, communication, presentation and writing, a motivator, and an optional tool' (Kim, 2008, p.255). Although the teachers mostly agreed (66%) and strongly agreed (12%) with the statement that ICT in the EFL classroom was 'quite easy', a lower percentage agreed (41%) and strongly agreed (7%) that it 'caused a lot of technical problems' for them. This might offer an explanation as to the less extended and creative use of ICT tools for more effective e-EFL learning by the learners. It is notable that the e-EFL teachers rate the capacity of ICT for helping learners to become active on the lower side. This view resonates with earlier findings that have highlighted how despite EFL teachers' perceptions of the importance of technology integration in the classroom, there was a lack of effort on their part to 'look for opportunities to learn how to integrate it successfully' (Chamorro & Rey, 2013, p.63).

5.2.4   Perceptions of Contributions of ICT to Educational Benefit in E-EFL Learning

When questioned about the contributions of ICT to educational benefit in e-EFL classrooms, (Table 9) the participating teachers reported positive perceptions of ICT in preparing learners for their future careers (63%), providing them with the opportunities to follow the latest information (61%) and furnishing them with the opportunities to study new things (59%). Interestingly, they reported less positive perceptions of ICT playing a role in improving their own quality of teaching (54%) which contradicts earlier positive perceptions of ICT as affording them opportunities to learn new skills and benefit them as teachers (see section 5.2.2). What is quite notable in the results within this section is that the teacher participants did not view ICT as facilitating student-centred learning and accorded this item the lowest rating (46%). Triangulating this with the less positive perceptions of the role of ICT in enabling students to become active learners (see section 5.2.2), it is possible that the e-EFL teachers view ICT as a tool that can promote student-centred learning on its own, and do not consider their own role in mediating ICT use for EFL learning to progress the learners towards active learning. In the Arab EFL context, earlier research has shown that teachers struggle to successfully integrate ICT in the EFL classroom due to 'the dominance of textbook-driven pedagogy and national examinations' (Picard, 2018, p.167-168). However, in research, it has been argued that 'ICT alone cannot provide a comprehensive basis for language learning' and that 'ICT must be integrated into present, proven, and successful practice if the full benefits of their advantages are to be reaped' (Fitzpatrick, 2004, p.12). Blake (2008, cited in Azmi, 2017, p.117) adds to that any activity without adequate pedagogical planning –technologically

enhanced or not-will produce unsatisfactory results with students, even if it's attractive from a multimedia point'.

5.2.5 Perceptions of the Impact of ICT on Their Teaching

The e-EFL teachers reported positive perceptions of the role of ICT (Table 10) in inspiring and helping students' self-expression (49%), improving their learning (46%), making learning more meaningful (46%), improving learners' self-confidence (41%) and developing their own pedagogical abilities (44%). However, the teachers reported substantially less positive perceptions of the role of ICT in helping students work more actively by promoting problem-based learning (34%). This aligns with the earlier limited view of technology as teaching aids in the language classroom (Wiangsima & Boonmoh, 2018). In their study of ELT teachers' perceptions of the future of English language teaching, Wiangsima and Boonmoh (2018, p.271) found that the teacher participants predicted a transformation of their roles from being only teachers to facilitators and motivators in the face of increasing integration of technology in the language classroom. In the context of this study, it is possible that the e-EFL teachers who share a limited view of technology as 'aids' to their own teaching find it difficult to understand how a shift in their own technology use and view of ICT role is needed to help students undertake problem based learning.

5.2.6 Perceptions of the Role of ICT in Promoting E-EFL Learners' Self-efficacy

In terms of the role of ICT in promoting e-EFL learners' self-efficacy (Table 11), the teachers reported positive perceptions of their ability and knowledge to use ICT for regulating learning activities in the classroom (56%), commitment to integrating ICT in learning activities in the future (51%), preference for using ICT in the e-EFL classroom and its link to positive learner outcomes (49%) and ability to search and choose suitable ICT devices for their e-EFL classroom learning (44%). These choices appear to indicate e-EFL teachers' confidence in their ability, preference for and commitment to using ICT strategically for promoting e-EFL learning in their classrooms and their ability to choose and deploy suitable ICT tools for e-EFL learning. However, only a limited percentage of participants (21%) reported knowledge of strategies for solving problems with the help of ICT in the e-EFL classroom. Tallying this with earlier results wherein almost fifty percent of the e-EFL teachers reported ICT as causing 'a lot of technical problems' for them (see section 5.2.3), this suggests that e-EFL teachers' knowhow of ICT tools for addressing unforeseen challenges in the e-EFL classroom is limited. In extension, this might explain why the

results show less extended use of ICT tools by the e-EFL teachers and their perception of ICT not being effective for student-centred learning. Literature suggests that there is a requirement for ICT to work not just as 'a cognitive tool, metacognitive tool' but also an 'epistemic tool to support critical thinking and authentic problem solving, which are also elements of twenty first century learning' (Guzmán, 2019, p.163). Hence, as Guzmán (2019, p.162) highlights there is a need for English teachers to 'develop technological skills [that can] support their English teaching procedures in an active learning environment'.

Based on their analysis of student perspectives on what constitutes effective or less effective use of ICT-integrated teaching, Fransson et al. (2018) outline key characteristics of skilled and less skilled ICT use in teaching. According to Fransson et al. (2018, p.2173), effective teachers are 'digitally skilled' and can demonstrate mastery of technical elements as well as 'how to use ICT and can motivate why and when to use it or not'. Further, they are able to introduce variety into their teaching by adopting different methodologies and ICT tools and they produce well-structured lesson plans and presentations, in addition to providing sufficient information, clear instructions that keep learners on task and use ICT to add value to the lessons. Such teachers are 'knowledgeable in their subject, involve students and try to deepen discussions [and they] strive to make teaching and learning fun, effective and interesting' (Fransson et al.,2018, p.2173). Less effective integration of ICT by teachers occurs when they lack 'digital skills' as a result of which they experience technical challenges in using digital tools and are less able to support learners in ICT matters. Fransson et al. (2018, p.2173) add that the teaching of such teachers tends to be monotonous and the teachers' 'general pedagogical ability is regarded as poor and unstructured'. In addition, less effective teachers 'allow the students to use the internet without sufficient instruction and do not help them to find accurate information, [often using] ICT as replacement for teaching, rather than as a tool for teaching and learning' (Fransson et al., 2018, p.2173). When compared against the skillset for effective ICT use by teachers reported by Franssson et al. (2018), the results in the current study suggest that the teachers' experience of technical problems in using ICT for e-EFL teaching and learning may be connected to the lack of the requisite skills and knowledge for effective ICT integration in e-EFL lessons.

5.2.7   Motivation for Trainings Attended

When questioned as to their motivation for training attended (Table 12), the e-EFL teachers showed positive perceptions of the need for all teachers (existing and future) to attend training on using ICT in the e-EFL classroom (49%) and revealed that university trainings had motivated them to use ICT in e-EFL teaching and learning (44%). However, only 29% of the participants strongly

agreed as to the need for more trainings on using ICT for e-EFL learning, while 63% agreed with the need for more trainings.

5.3 Demographic-based Differences in Survey Results

Analysing the significance test results for mean differences by age groups on all survey items, the study found that older teacher participants tended to rate higher for all factors, although these differences are not statistically significant. Non-Saudi e-EFL teachers tended to rate higher for all factors as compared to Saudi e-EFL teachers. However, these differences are not statistically significant for perceived usefulness of ICT, perceived ease of use of ICT, and motivation for educational (see Table 15). Mean differences between Saudi and Non-Saudi were found for motivation for impact on teaching, self-efficacy and training attended (see Table 15). As Table 16 shows, in terms of highest academic qualification, the teachers with Master's degree showed higher mean scores for all factors as compared to MPhil/PhD qualified teachers. However, these differences were found to be insignificant for all factors.

Teacher participants with TESOL/EFL teaching certificate/diploma tended to give higher rating to all factors as compared to peers with only teaching training certificate. These mean differences are found to be statistically significant in perception of usefulness of ICT.

Respondents who had attended workshop on ICT generally give lower rating scores to all factors than those who had not attended workshops, although these differences were found to be statistically significant only for perception of ease of use of ICT and motivation for educational benfit. Differences in ratings for other factors such as perception of the usefulness of ICT, motivation for impact on teaching, self-efficacy and training attended were not found to be statistically significant. In regard to differences in ratings for all factors by teaching experience, ANOVA test results indicated that there were no statistically significant differences between the means score for the participants.

5.4 Analysis of Qualitative Data from Teacher Questionnaire

Within the teacher questionnaire, open ended questions were included to gain insights into Saudi e-EFL teachers' experiences of using ICTs in EFL teaching/learning and their beliefs about teacher roles and student-centred learning, in addition to their views on self-directed/heutagogical learning by the EFL learners in the research setting. The aim was to provide a space for the EFL teachers participating in the study to share their own perspectives on the following:

    i)   Obstacles experienced in integrating ICTs into EFL teaching and learning

ii)   Views about devolving responsibility for learning to the learners

iii)   Student-centred learning and impact on loss of teacher 'authority'

iv)   Taking of initiative by learners and heutagogical learning.

The analysis of data collected in response to these questions helped to map e-EFL teacher understanding and views of ICT-integrated EFL learning and teaching (see section 4.2.10 for more details).

5.4.1   Obstacles in Integrating ICTs into E-EFL Teaching and Learning

When asked whether they faced any obstacles in integrating ICTs into EFL teaching and learning, the participating teachers highlighted a host of issues. These ranged from technical issues and pedagogical issues to issues pertaining to student attitudes and motivation. The different categories of issues highlighted by the participating teachers index the complex reality of ICT integration in EFL teaching/learning which is influenced by technical as well as teacher and student-related factors.

5.4.1.1   Technical Issues.

Several of the e-EFL teachers participating in the study reported that they faced many technical issues in delivering ICT-integrated EFL learning. These ranged from poor Internet connectivity/slow speed and lack of Internet access to device failure. Poor Internet connectivity and slow speed seemed to be issues faced by many of the e-EFL teachers endeavouring to deliver ICT-integrated learning in the EFL classroom. For instance, a number of participants noted that the Internet connectivity or Internet speed available in the EFL classroom was 'weak' or the speed was 'slow', thus breaking the 'momentum' of the classes. These issues are in line with those reported in earlier research identifying 'challenges that teachers face…from outside their sphere of control when integrating a new technology' in their pedagogical contexts, including 'limited accessibility and network connection' (Ghavifekr et al., 2016, p.40). Some of the teachers reported facing login and connection issues which made it difficult to implement online activities or impeded 'live online participation'. In other cases, the teacher participants found it difficult to integrate ICTs effectively in EFL learning due to a 'lack of Internet access', lack of 'network' and dearth of 'computers and projectors'. This aligns with existing research in the Saudi university EFL context which identified 'lack of access' as a key barrier in effective ICT use (Gamlo, 2014, p.1). The participating teachers also reported a lack of devices or malfunction of available functions. Some of them noted that the equipment was low tech or inadequately maintained. These findings are in accordance with research that has explored e-learning integration

challenges faced by EFL teachers and learners at a Saudi university, Ja'ashan (2020) surveyed 36 staff members and 261 EFL learners to identify the kind of difficulties they faced in their teaching and learning context. Anticipating the findings of the current study, Ja'ashan (2020) revealed that the teacher participants lacked technical support, training, internet access at home as well as adaptive technology.

5.4.1.2   Teacher-related Issues.

Some of the issues in regard to the challenges experienced by the e-EFL teachers in delivering ICT-integrated learning were linked to the teacher factors. As the data analysis showed, these included the teachers' ICT expertise and ability to help students troubleshoot ICT related problems, experience of screen fatigue and lack of control over learners' attitudes in class. Drawing upon prevalent classifications of barriers to ICT integration, Laudari and Maher (2019, p.78) highlight that barriers to ICT integration can be categorised as 'first-order' (hardware/software, planning/preparation, administrative as well as technical assistance) and second order barriers which are 'internal and are associated with teachers' beliefs, motivation and attitude'. They add that 'teacher-internal factors' are more likely to influence ICT-integration in 'tech-affluent' countries, whereas in developing economies ICT-integration is more likely to be hindered by the 'first-order barriers' (Laudari & Maher, 2019, p.79). The findings from this study show that both kinds of barriers to ICT integration appear to be in place within the research setting with the data reflecting teacher-external (see previous section) and teacher internal factors (e.g. teachers' own ICT expertise ability, screen fatigue).

The issue of limited ICT expertise on the part of the e-EFL teachers has been highlighted by recent research which surveyed 265 Saudi EFL teachers to identify the pedagogical challenges faced by them in delivering online EFL learning (Hashmi et al., 2021). For instance, the findings of the study by Hashmi et al. (2021) showed that EFL teachers desired more training and professional development in learning to teach EFL online.

5.4.1.3   Student Related Issues.

The data analysis of open-ended questionnaire data also showed that there were a number of student-related challenges to delivering ICT-integrated EFL learning identified by the participating teachers. These ranged from the students' lack of ICT knowledge, poor attitudes towards ICT-integrated EFL activities and lack of motivation. For instance, the teachers reported that not only was there a 'lack of ICT knowledge and training amongst students' but also a 'lack of motivation and activity amongst students' with many learners viewing [ICT-integrated] activities as a waste

of time [and] opting to shortening the class time instead'. The teachers observed that 'not all students are involved actively in class' and that 'plagiarism' in student work was also evident. The findings on the students' lack of knowledge being a factor of influence on ICT integration is in line with research investigating the attitudes of Saudi EFL learners studying in an educational setting in Malaysia (Sabti % Chaichan, 2014, p.7). This study identified the lack of skill 'as the most important obstacle influencing the Saudi e-EFL learners' and restricting the use of computer technologies in learning English' (Sabti & Chaichan, 2014). Sabti and Chaichan's study also identified student motivation as a possible barrier to ICT integration, although to a less detectible level. The student related issues identified by the participating teachers are in line with the findings of a study carried out in Kuwaiti HE which suggests that 'the success of ICT in any learning institution, including higher education institutions (HEIs), depends on the attitudes of undergraduates to using ICT in their daily learning' (Meerza & Beauchamp, 2017).

5.4.2   Coping with Obstacles When Using ICT in Teaching and Learning Activities in the E-EFL Classroom

When faced with obstacles in using ICT in EFL teaching/learning, the participating e-EFL teachers reported that they used their own devices or to share their 'own internet connection' with the learners or to 'connect to hotspot on [own] mobile phone'. Many of the EFL teachers talked about having a backup plan or using 'old school materials' and 'book and blackboard' in case of technology failure. Some of the participants stressed the importance of being prepared for everything beforehand and 'bring[ing] with me extra materials (papers) in case there was not an internet connection'. The teachers also kept a 'troubleshooting file on hand', learnt from 'shared PowerPoint videos and sharing experience' and consulted the university's 'technical assistance staff'. At times of online activity failure, 'alternate resources like whats app' were used to cope with any ICT-related obstacles and to carry on with the EFL learning. One of the teacher participants also reported 'changing the style and method of teaching [so that] it could be either teacher centred or [making] use of other app' in order to cope with obstacles to ICT integrated classroom activity. These responses reinforce the key role of teachers in successfully integrating technology and e-learning in the EFL classroom. These roles and professional activities are well-defined by the developed professional standards, related to the general competencies which teachers need to master for ICT driven education: knowledge of learning activities for which ICT can be adopted; knowledge and skills to use both ICT hardware and software; knowledge of the pedagogical-didactical facets of ICT (Hermes & King, 2013).

5.4.3   Devolving Responsibility for Learning to the Learners

In response to the question of whether they were happy about devolving responsibility to the learners for their own learning, the teacher participants talked about the issue in practical terms as well as in terms of what it implied for the e-EFL learners' learning processes and outcomes. For instance, some of the teachers thought of 'devolving responsibility' as allowing learners to undertake problem-solving, do group work, work out solutions on their own and apply cooperative learning strategies in the e-EFL class. To promote learner autonomy, the e-EFL teachers also let the learners undertake peer assessment and feedback as well as have brainstorm what they wanted to do as a class activity. As one of the teachers observed, this helped the learners to take responsibility for their learning and for understanding what the task required, in addition to monitoring their progress based on how they had performed. The teachers also devolved responsibility by enabling e-EFL learners to make decisions as to the topics for their speaking and writing tasks and forming their own groups. Teachers also viewed devolving responsibility to the learners in terms of allowing them to seek out information for their projects and doing grammar and vocabulary activities via apps to extend their learning.

The participating e-EFL teachers also felt that devolving responsibility to the learners involved giving them a chance to have a say in how learning was paced or to provide ideas for in-class activities. The teachers strove to devolve responsibility by letting students have a say in the pacing of things or by letting suggest different ideas for in-class activities. The learners could also 'decide which program to use'. These ways of devolving responsibility suggest that the e-EFL teacher participants have a fairly sound understanding of the general side of devolving decision-making about the topic, design, mode and pace of class activities and the impact of this on learner autonomy.

However, while the students in the research setting were given opportunities to have a say in their own learning, the extent to which teachers made use of ICTs to do this appeared to be limited. For instance, the analysis of data revealed only a few instances of ICT integration in devolving responsibility to learners. In one example, this included helping learners become 'more responsible and aware of their learning process' with the help of WhatsApp. The teacher revealed that she had given a student unable to participate in a final presentation due to poor Internet connectivity to think of a way to resolve this issue. The student had used WhatsApp to record her part of the presentation and sent it to the teacher via this app. In another example, the teacher used breakout groups in online learning to foster learner autonomy, in addition to setting tasks that encouraged learners to take the initiative and demonstrate proactiveness.

Hence, as the findings above suggest, a key barrier in the adoption of technology is reported to be the lack of adequate knowledge on the part of the teachers for using the technological component. There is a lack of appropriate pedagogical knowledge to deploy e-learning effectively in EFL instruction; in particular, without access to training, teachers often prefer to stick to conventional teacher-centred approaches (Picard, 2018). With the integration of educational technology, teachers need to be more creative and adopt modernised ways of working with technological resources within the classroom, since the technology only represents a tool (Rao, 2012). Teachers need to understand that technology is a tool, through which students can expand their language practice in a variety of environments and not only within the class context. These findings also support the idea that teachers' perceptions of how useful and easy they find the e-learning tools available to them as well as their own ICT self-efficacy are likely to influence the manner in which they use the tools. If the teachers lack the training and/or awareness (benefits of ICT, impact on teaching) to use them for promoting students' heutagogical learning, the tools designed to promote learner-centred pedagogy can end up being used in a teacher-centred way.

Teachers need to establish a trade-off between using technology and offering instruction. For instance, they need to balance teacher-fronted e-EFL instruction with promoting learners' capacity to use available e-learning technologies for extending their e-EFL learning in and beyond the classroom. This implies that the teachers must be well-trained to leverage technology as effectively as possible. Teachers, therefore, need to be well trained on the use of technology before applying the skills and knowledge within the classroom context. This contributes towards improving technological skills and the frequency with which teachers use technology in teaching.

Amongst the e-EFL teachers surveyed in this study, there was some awareness of the challenge of promoting learner autonomy due to student capacities and characteristics. For instance, as the teachers revealed, the students lack metacognition of what their own roles as learners were which led them to remain dependent on teachers. The university also fostered dependence by urging teachers to 'handle students in a way that is similar to babying them'.

Another teacher felt that devolving responsibility to the learners in the research setting did not work as most of the learners wanted to be 'spoon-fed' in their learning, displayed low motivation, particularly in online classes and tended to be 'lazy' about participating in online discussions. These findings align with those of a study by Halabi (2018, p.288) which surveyed Saudi EFL teachers and students as well as interviewed a selected sample of both. The teachers in Halabi's study also felt that the 'students are used to being spoon-fed information and were not very motivated to learn English' (Halabi, 2018, p.288). Interestingly, while the teachers in the current

study and the study by Halabi felt that learners' lack of motivation signified poor learner autonomy, the learners in Halabi's study linked autonomy to the use of appropriate strategies and use of study skills rather than motivation. These findings also echo earlier research which suggest that 'in Saudi EFL classes, most of the time, learners seem to have a passive role in their learning' (Tamer, 2013 as cited in Alonazi, 2017, p.183). As Alonzai (2017, p.183) highlights, the learners 'depend greatly on their teachers and are unwilling to develop a sense of responsibility for the outcome of their learning'.

The participating teachers believed that 'devolving responsibility was important for enhancing learners' autonomy and that the learners had a good sense of how taking charge of their own learning could help the e-EFL learners. In this way, the learners learnt to become more responsible towards fulfilling their learning goals and they were in their 'comfort zone' when learning autonomously. These beliefs about learner autonomy are in accordance with existing literature. For instance, Hsieh and Hsieh (2019, 158-159) argue that 'learner autonomy has been found a good quality of learners, and one of the elements that lead to successful learning'. They suggest that 'to foster learner autonomy, learning-resources provision should be suited to encouraging students' autonomous learning both in and outside the classroom', especially in the case of language learners who can seek out input and practice their language skills through extended learning beyond the classroom.

However, in this study only one teacher made a link between deploying 'different ICT methods [to] give the teacher the ability to give learners some control through different assignments'. As the analysis above shows, the participating teachers were aware of the importance of fostering learner autonomy and how it could help their learners become more self-regulated and responsible. Many of them also employed several concrete strategies for enabling learners to have a say in their learning. However, analysis of data shows that only a single teacher made the link between 'devolving responsibility' and using ICTs to help learners more self-regulated and responsible and to undertake heutagogical learning.

Research suggests that transformations in the learning paradigm, pedagogy and methodology which has been accompanied by increasing integration of ICT technologies has entailed a shift in the roles of teachers and learners (Fitzpatrick & Davies, 2003). Under the new paradigm, teachers must learn to use ICTs so that they can guide and mentor learners and serve as role models for the students (Fitzpatrick & Davies, 2003). Saudi EFL teachers also require competencies developed through professional development which includes a focus on pedagogy as well as content knowledge for effective ICT use (Khan, 2014). As the findings of the present study appear

to confirm, the teacher participants are not particularly clear about the fact that ICTs need to be deployed in a way that fosters learner autonomy and allows the learners to extend their learning to the wider world.

5.4.4   Student-centred Learning and Impact on Loss of Teacher 'Authority'

When questioned as to whether student-centred learning impacted their authority as teachers, the e-EFL teachers tended to share the view that teachers were an indispensable part of the equation of EFL learning and student-centred learning could not undermine their authority. There was an awareness that the teacher's role was not to be an 'authority' but rather to provide the 'tools and means' to help the learners grow. The teachers felt that even when they played a facilitative role, the e-EFL learners looked to them for direction and for guidance.

Authority as a concept generally refers to the power that is given to others to make decisions, give orders, and enforce obedience from others. Typically, authority can be used when describing a civil state, a government, or a political leader who holds legitimate power over a group of people (Abdumutalibovich, 2022). But in this context, the authority refers to teachers who hold the power over their curriculum and teaching methods, which students have to obey as part of learning. However, teaching was previously compared to a political act by Henry Giroux (2020), who argued that issues of democracy where not distinct from learning and teaching due to the power structures and inequality patterns that exist in both contexts.

Paulo Freire argued that the education system needs to be more problem- and critical-based, where students become active agents in their own learning. He believed that as part of self-development (and education is a part of that), students attained power through gaining knowledge (Freire, 2020). This theory disrupted the traditional beliefs on hierarchical power structures between students and teachers, where students began to be more powerful and dominant, and almost equal to their teachers (Freire, 2020). At the same time, Gunther Kress argued intelligence was based on multimodality, that is consisting of multiple modes. Kress (2010) argued that modes were socially and culturally shaped and formed a foundation of meaning-making. He argued that intelligence could be formed in different ways, based on one's social and cultural exposure (Kress, 2010). Through this logic, it becomes challenging to determine a clear hierarchy or power structure in gaining knowledge or learning, as all learning is said to be fluid and context-dependent. Based on Kress' theory, the authority of teachers would be variable based on the context where they are teaching.

Analysis of data showed that the e-EFL teachers viewed the role of the teacher in student-centred learning as maximising the students' potential rather than exerting their authority and the former was contingent upon the positive participation of the learners in an interactive classroom environment. The e-EFL teachers believed that teachers play a key role in motivating and providing feedback to learners, monitoring, guiding and evaluating them, helping learners become more confident, guiding the learning process and providing direction to learners.

The participating e-EFL teachers appeared to clearly understand how playing their role created a productive environment which in turn enabled learners to develop skills for the future. The teachers were aware that student centred learning enabled the learners to learn on their own, evaluate themselves and direct their own learning processes, all key ways for students to become self-directed and heutagogical learners.

The analysis of qualitative responses to this question confirmed that the e-EFL teachers participating in the study largely did not feel that student-centred learning undermined their 'authority' as teachers. They also showed awareness of what their roles in a student-centred learning environment, ranging from serving as guides, mentors and facilitators. However, it is significant that none of the teachers made a link between their roles, the learning environment/goals and the role of ICTs. This suggests limited awareness of how ICTs are designed for and aimed at facilitating student-centred learning. This is in line with research which suggests that teachers must be able to demonstrate not just 'a deep understanding of technology [but also] knowledge of students' learning processes' (Lund et al., 2014, p.280). The increasing integration of e-learning tools in the e-EFL setting has created not only an impetus for teachers to develop an in-depth understanding of available learning technologies but also to learn more about the learning processes of their students with specific reference to how they can play a role in supporting student-centred learning.

5.4.5 *Learner Initiative and Heutagogical Learning*

When asked whether they supported the idea of learners identifying their own learning needs, formulating learning goals, identifying suitable learning resources, implementing problem-solving strategies and reflecting upon their learning processes, the e-EFL teachers were generally supportive. The teachers felt that the learners need to have a say in all these outlined choices and to take their own decisions.
The teachers believed that this made the learners more autonomous which influenced their learning positively, especially as at times the students knew their needs more than the teachers.

It was believed that the taking of initiative by learners boosted students' self-esteem and improved their study skills. Other teachers felt that it made the learners more mature and prepared them for adulthood and the work place'. It was also felt that when learners took initiative, it motivated and boosted their confidence and initiated lifelong learning. As another teacher noted, taking initiative helped learners to become 'conscientious', 'identify their learning styles', 'take ownership of their learning' and to 'improve academic performance'. It also made them more responsible as learners because it allowed them to express themselves and figure out their motivation and improve their needs. In sum, as highlighted by one of the participants, it helped them become more independent learners and increased learner autonomy. This is in line with the idea of non-linear learning which is a key principle of heutagogy. The learners determine and lead their own learning, which can allow them to experience self-confidence in their own abilities as well as self-motivation, thus, yielding a positive impact on their affective regulation and in turn on their self-efficacy (Blaschke & Hase, 2016).

However, despite a largely positive perception of helping e-EFL learners to 'get on with their learning' by taking the initiative and playing an active role in their learning voices, the analysis of open ended teacher data showed that the teacher participants had some reservations about moving their students towards heutagogical learning. This suggests a 'guarded' or 'cautious' approach to enabling heutagogy. It was agreed that heutagogical learning was desirable 'to some extent yes, but not completely [as] learners must have some freedom while learning that is according to their needs'. The reservations pertained to the capacity of all learners to learn independently or to demonstrate requisite awareness or expertise. As one of the teacher respondents noted 'not all the students have the capabilities, therefore a teacher's guidance is surely needed'. Another teacher observed that the 'ELI students are not yet up to that level of academic awareness and expertise'. One of the teacher participants felt that learners needed to be mature enough to identify their learning needs and goals. Another teacher observed that while the course could be designed to help EFL learners take charge of certain aspects of their learning, not all learners were sufficiently cognisant of their pedagogical needs to move towards heutagagical learning.

One of the responses to the question highlighted an important issue. While the participating teacher agreed that students should have an input in their learning process, she was not particularly clear about how such input would actually affect the process of learning. This suggests a lack of clarity over the nexus between EFL teaching/learning, ICTs and heutagogical learning, possibly attributable to a lack of or gap in training.

In sum, the teacher participants generally favoured heutagogical learning on the part of the e-EFL learners. However, they believed that individual learners' capacities, maturity and their cognisance of their own pedagogical needs were important factors in determining whether or not the learners were prepared for taking charge of their own learning.

5.5   Summary of Findings from Teacher Questionnaire Data

Existing research on e-learning integration into Saudi e-EFL setting has ranged from investigations into teacher attitudes (Abalhassan 2002; Al-Asmari 2005; Gamlo 2014; Mohsen & Shafeeq, 2014), learner attitudes (Al Shammari, 2007) to research on utility of ICT in Saudi EFL classroom (Alaboudi, 2014; Almudibry, 2012; Almutairi, 2014; Alotaibi, 2009). However, the surveyed literature does not seem to have turned its attention to the redefining of pedagogy in response to increasing integration of ICT technologies in the e-EFL classrooms in KSA universities. The current study found that while e-EFL teachers had positive perceptions of e-learning on their teaching and on learner outcomes, in general, they did not view e-learning as promoting active learning on the part of the learners. Further, they tended to use ICTs as teaching aids and tools rather than as the means whereby to catalyse active student learning, thus overlooking their own key role in helping their students become active learners.

This study found that e-EFL teachers participating in the study tended to use (to varying degrees) PowerPoint, email, VLEs, online quiz, task explanation/materials provision via smartphones and educational CD/VCDs. They perceived these ICT tools as being useful for their teaching and demonstrated positive perceptions of ease of use of ICT in regard to functional reasons such as storage, communication and as an aid to conceptual understanding. However, the e-EFL teachers evidenced less positive perceptions of the role of ICT in enabling students to become active learners. Although the teachers largely had a positive perception of ICT playing a role in helping e-EFL learners with their future careers, providing them with the opportunities to access latest information and furnishing them with the opportunities to study new things, many of them did not view ICT as facilitating student-centred learning and accorded this item the lowest rating. The study also found that the e-EFL teachers believed that ICT could contribute to students' self-expression, improve their learning, make learning more meaningful, improve their self-confidence and develop their pedagogical abilities.

However, for the most part, the participants did not think that it could support their active learning. While the teacher participants were largely confident in their ability, preference for and commitment to making strategic use of ICT to promote e-EFL learning and in deploying suitable

ICT tools, they reported experiencing technical problems in using ICT and in undertaking problem-solving in using ICT. A majority of the learners revealed that university ICT trainings had helped them, but some of them agreed to the need for more trainings. The most identifiable issue in the discussion of the results from the teacher questionnaires appears to be that of teacher perception of ICTs as an aid to their teaching (rather than a learning tool) whereby they are led to view ICTs as being ineffective in the promotion of active learning amongst the e-EFL learners. As discussed earlier, this view stems from a lack of awareness that effective use of ICTs by learners for in-class and beyond-class e-EFL learning requires teacher mediation and guidance.

The analysis of qualitative data from the teacher questionnaires showed that the perceptions shared in the open-ended responses ran parallel to the insights gained through responses to the close ended survey items. For instance, it identified the range of factors (technical, teacher-related, student-related) affecting ICT-integration in EFL teaching/learning, thus highlighting the complex nature of ICT deployment in the EFL classroom and beyond aimed at fostering student-centred, heutagogical learning in the Saudi context. Further, it showed that the devolving of responsibility to learners was generally viewed by the teachers from a pedagogical perspective (group work, topic choice, pacing). In contrast, the integration of ICTs in EFL learning and teaching is aimed at fostering the conscious use of technology throughout the process of teaching and learning to ensure that it contributes actively to student learning as opposed to mere integration as an afterthought. Additionally, none of the teachers were able to explicate the link between their role as teachers, the learning environment/goals and the role of ICTs, thus suggesting limited awareness of how ICTs are aimed at facilitating student-centred learning. Finally, the analysis of data also suggests that teachers did not necessarily make the link between EFL teaching/learning, ICTs and heutagogical learning.

The e-EFL teachers' limited awareness of their own roles and the functions of e-learning tools in the Saudi EFL classroom vis-à-vis autonomous, student-centred learning and self-directed learning envisioned by means of ICT-integration impacts the effectiveness of e-EFL learning. These insights indicate the need for better and in-depth teacher training that may help e-EFL teachers to develop 'professional digital competence' (Lund et al., 2014, p.280) and to understand that their own roles, how they make use of e-learning tools and their students' learning processes are interdependent and connected.

5.6 Demographic Profiles of the Students

The results show that all the 349 participants were Saudi Arabian female learners and that the majority of them (98.28%) were aged between 18 to 25 years. The sample was composed of Level One (38.97%) and Level Two (61.03%) university students. In addition, more than half of them (64.76%) came from the Al-Faisaliah Branch (Table 20).

5.6.1 ICT Tools in the E-EFL Classroom and Regulation of the E-EFL Learning Experience

The technology devices predominantly used by the e-EFL learners included mobile phones (91.40%) and laptops (79.08%), whereas a smaller number of learners used tablets (30.37%). Desktop was used by a very small percentage of learners (7.45%). A majority of the learners reported access to Internet at home (88.54%), while access at university was reported by 67.62% of the learners and on their mobiles by almost seventy percent of the learners. The learners used ICT tools predominantly for academics and coursework (94.84%), social interaction (92.26%) and entertainment (86.25%). To a lesser extent, learners used ICT tools for correspondence (55.30%). In terms of the ICTs in the classroom, most of the e-EFL learners reported the availability of virtual learning environments (81.66%), while less than sixty percent of the learners (58.17%) revealed access to mobile learning applications. The availability of smartboards was reported by only 30.37% of the e-EFL learners. Almost 45% of the learners reported that they used e-learning technologies for 6-10 hours per week, while 38.11% of the learners used them for less than five hours. Only about 17 percent of the learners revealed using e-learning technologies for more than 11 hours per week (Table 21).These results indicate the wide availability of internet at home, university and on mobile devices as well as access to a range of technology devices for learning. The predominant ICTs in the classroom include VLEs and mobile learning applications. The number of hours spent in using e-learning technologies appears to be limited in a majority of the cases. ICT tools are largely deployed for learning, interacting with others and for enjoyment and amusement. This aligns with research in the EFL context which found that learners were not able to 'fully exploit the potentials of ICT tools in learning language' and that there was a need for teachers to' raise students' awareness about the possible outcomes of using Web 2.0 tools for language learning' (Şahin, 2017, p.385). The current study found that Internet and e-learning technologies were used by an almost equal percentage of learners for coursework (94.84%) and social interaction (92.26%). These findings are significantly different from those of earlier studies which found that EFL learners tended to focus on using ICT to a significant extent for general

including social interaction purposes and to a limited extent for learning English (e.g., Jung, 2006; Melor et al., 2010; Tri & Nguyen, 2014).

5.6.2   E-EFL Learners' Perceptions Towards E-Learning

The results showed that the e-EFL learners enjoyed learning with book/paper/pen (M=3.69), tablets (M=3.44), phones (M=3.44) and laptops (M=3.34). They revealed positive perceptions towards using technology in the classroom (M 3.56) and learning to use new types of technology (M=3.90). They viewed technology as helping them learn at university (M=4.36) and helping them in their future jobs (M=4.64). Reverse scoring was applied to the negative items 'I am not comfortable using technology' and "Using technology to do activities does not help me learn in class" and the (new) computed mean scores for these items were 3.69 and 3.65, respectively (Table 22). These scores confirmed participants' positive perceptions towards using technology and the positive influence of technology on learning in class. This is in line with findings from earlier studies that have investigated student perceptions of ICT-integrated EFL instruction (Faridi, 2020; Karimuddin et al., 2015).

5.6.3   E-EFL Learners' Attitudes Towards E-Learning

Although the results appear to show a majority of learners showcasing a preference for learning through books (40.97%), the combined percentage of preferences for the ICT tools (laptop, tablet, phone) is almost 60 percent, suggesting that the e-EFL learners had a clear preference for learning through a range of technology devices. As the combined percentage for the ICT option selections under each question showed, the e-EFL learners showed a strong preference for using ICT tools to read information (66.76%), do in-class activities (64.18%), write essays (81.95%), produce infographics (82.52%) and make videos (100%). For reading information outside the class for fun, the learners largely preferred to use ICT tools, including phone (75.93%), tablet (10.32%) and (4.87%). The participants also revealed that they preferred to use phone (40.11%), laptop (34.38%) and tablet (14.90%) at university, with only a small percentage indicating a preference for books/printed paper (10.60%), although a majority of the learners (71.92%) preferred teachers to present information on both whiteboard and electronic board. This preference for ICTs and e-learning aligns with earlier studies which have found that learners prefer to learn with e-technologies rather than through paper-based learning (Kreutz & Rhodin, 2016; Rashid, 2018). The results also showed that in general, the e-EFL learners preferred learning with both books and technology devices (66.48%), although in some cases, the learners

preferred to learn with technology devices only (22.06%) and to a lesser extent with books only (11.46%).

5.6.4 Students' Use and Experience of E-learning Technologies and Self-efficacy

The overall mean scores for the different types of regulation in descending order are 4.34 (culture), 4.32 (resource), 4.12 (goal commitment), 4.11 (metacognitive), 4.04 (social connection) and 3.99 (affective). This is the order in which participant responses to ICT use in the context of different kinds of regulation are discussed below. An important finding in this study was that the participating learners took advantage of ICTs to regulate their e-EFL learning. The top three types of language learning regulation evidenced by the e-EFL learners in this study was that of culture regulation, resource regulation and goal regulation (For more details, see Table 24, Table 25, Table 26, Table 27, Table 28, and Table 29)

The results showed that a majority of learners made use of ICT to search for answers to their questions about language and culture and to increase their ability to interact with the target culture. To a lesser extent, ICTs were used by learners to understand and appreciate the target culture better. In terms of resource regulation, a majority of the learners used ICTs to seek more resources, access increased language learning outside the classroom and searched for resources and opportunities to achieve their goals. To a lesser extent, they searched for attractive language learning materials and experience through ICTs. The participants also made use of ICTs as important sources and tools for maintaining their goals in e-EFL learning goals. They perceived ICTs as helping them to achieve their immediate language learning goals more quickly, in addition to helping them reach their ultimate language learning goals.

Metacognitive regulation was also used to a limited way by the e-EFL learners. The learners mostly used ICTs for selecting and using suitable ICTs to improve in weak e-EFL learning areas. To a lesser extent, the results showed that they knew how to use ICTs for monitoring themselves in achieving learning goals at each stage and that they set sub-goals to progress towards the next stage of learning in the light of how much they know. Participant responses to other indicators of metacognitive regulation received lower mean scores.

The least used regulations included social connection and affective regulation. While the results showed that most of the e-EFL learners used ICTs to make their language a relaxing process, to connect with native speakers of the language and to connect with other learners internationally, to a lesser extent, the ICTs were used to enjoy language learning, search for support from other language learners and to increase the time spent on e-EFL learning. A majority of the e-EFL learners used ICTs to decrease their boredom when they felt bored with EFL learning. They also

used ICTs to make e-EFL learning more attractive to themselves, to regain interest in EFL learning when they experienced a resistance to it and to maintain their enthusiasm in language learning. Students whose age were less than 18 years old tend to rate higher for all factors. However, these differences were not statistically significant. Level Two students tended to rate higher compared to Level One students for all factors except social connection regulation and culture regulation. However, these differences were not statistically significant. The mean scores vary on all factors when the students were grouped according to their branch. Moreover, these differences were not statistically significant.

5.7   Summary of Findings from Student Questionnaire Data

The study found that e-EFL learners had access to Internet at home, university and on their mobile devices and used a variety of technology devices for learning at university (e.g. mobile phones, laptops, tablets and desktops). ICT tools were predominantly used for academics, social interaction and entertainment. VLEs, mobile learning applications and smartboards were available to the learners in the e-EFL classroom. The learners reported limited engagement with e-learning tools during the week. The e-EFL learners largely viewed e-learning positively and showed a strong preference for learning with ICTs over paper-based learning. The e-EFL learners made use of ICTs mostly for culture, resource and goal commitment regulation of their language learning experience. The other regulations were used to a limited extent which indicates the need for learners to be more aware of using ICTs to regulate diverse aspects of their language learning experience. Based on these findings, it can be concluded that learners were not able to utilise the ICTs at their disposal to the fullest extent which indicates that they require greater awareness of and guidance as to the deployment of e-learning for effective e-EFL learning. Literature suggests that it is important to prepare and support learners in the effective utilisation of technology (Blake, 2008; Winke & Goertler, 2008) and to train them in making the best use possible of online resources (Romeo & Hubbard, 2010). Given the importance of teacher support on learners' self-regulation in EFL learning with ICTs (e.g., Çelik et al., 2012; Lai & Gu, 2011), it is evident that the e-EFL learners in the current study require explicit guidance on using e-learning for realising their language learning goals and becoming heutagogical learners.

The analysis of student data also showed that learners' use of e-learning for language learning was limited not only in terms of time spent on this but also in terms of the types of regulations they accessed by means of ICTs for effective language learning. It was evident from the data that the learners lacked guidance and awareness-raising in more effective use of ICTs for EFL learning.

As Figure 5 shows, the key contribution of this study is the highlighting of the need to re-evaluate the pedagogical training needs of e-EFL teachers in response to the growing integration of ICTs in Saudi universities and the impact of how teacher views of e-learning and their own roles shape the experiences of the e-EFL learners. The table below shows how student and teacher factors interact and intersect to hinder ICT-integrated student-centred learning, thus giving rise to the need to re-define the pedagogy for e-EFL learning in the study context.

Figure 5

Influence of Teacher and Student Factors on ICT-integrated Student-centred Learning in the Study Context

STUDENTS' DEMOGRAPHIC VARIABLES				
Gender	Age	Nationality	Level	Branch
Key Factors	Students' Characteristics **Motivation Attitudes Computer Skills** Teachers' Characteristics **Control of Technology Pedagogy Attitudes** **E-EFL PEDAGOGY** Learner Regulation of Language Learning **Culture, Resource, Goal Commitment, Metacognitive, Social Connection, and Affective**	**Interaction Between Factors in Promoting Self-efficacy Through Heutagogical E-EFL Learning via E-learning/ICTs**	Develop E-learning Activities that Promote Students' Active Learning Build the Capacity of Teachers Pedagogical Training for Using ICTs Effectively in EFL Classroom Digital Upskilling of E-EFL Teachers for ICT Problem Solving **REDEFINING PEDAGOGY FOR E-EFL LEARNING** Enable Teachers to Provide Explicit Guidance on How to Use ICT Tools for Regulation of Active Learning in and Beyond the Classroom	**Establishing Heutagogical E-EFL Learning Through E-learning/ICTs**
Gender	Age	Academic Qualification	Certification	Nationality	Training Attended
TEACHERS' DEMOGRAPHIC VARIABLES					

5.8 Recommendations

5.8.1 Pedagogical Training for Integrating ICTs Effectively in E-EFL Teaching and Learning

Based on analysis of data from teacher questionnaires, it was found that teachers generally had a positive attitude towards student cantered learning and agreed as to the need for learner autonomy and its relevance to the development of learners' lifelong learning skills. They even believed that they encouraged it through pedagogical strategies that included giving learners a say in topics, pacing and activity choice. However, what was fairly evident was that most of the teacher participants were unable to connect learner autonomy with how they used the ICT tools and/or to the roles they performed as teachers (see sections 5.4.3, 5.4.4, and 5.4.5). Their use of ICTs for learning tended to be superficial and connected to using the latter for teaching tasks and administration rather than for helping their learners to use the ICTs for learning independently or learning beyond the classroom (section 5.2.1). When tallied with their inability to understand that devolving responsibility to learners actually entailed working with the latter to deploy ICTs in ways that fostered autonomy, a clear need for professional development 'which includes a focus on pedagogy as well as content knowledge for effective ICT use,' (Khan, 2014, p.21) became identifiable.

It has been observed that when teachers are digitally proficient and trained to make use of ICT, they become better positioned to develop their learners' 'higher order thinking skills, provide creative and individualised options for students to express their understandings and prepare students to deal with ongoing technological change in society and the workplace' (UNESCO, 2021, para 1 & 2).

5.8.2 Digital Upskilling of E-EFL Teachers for ICT Problem Solving and Creative Use of ICT Tools for Students' Active Learning

In addition, given the e-EFL teachers' limited expertise in ICTs revealed during the course of the data analysis, it is recommended that they should also receive training in the use of various ICTs so they learn to deploy them more effectively, rather than to use them superficially for content delivery or admin purposes. Further, such training would help them to provide adequate guidance to the e-EFL learners and support them in extending their learning beyond the classroom with the help of appropriate ICT tools. In order to design and provide such training, it is important to understand what approaches to ICT integration have been identified and how they hinder or

promote student-centred learning. Based on his study of the ICT deployment in EFL at Czech elementary schools, Paneru (2018, p.1) found that participating teachers tended to 'undertake a conservative mechanical practice of technology use in language teaching' (Formal Practice, see Figure 6) or to use ICT 'in terms of (social) construction' (Functional Practice, see Figure 7). As Figure 6 below shows, EFL teachers in Paneru's (2018) study to integrate ICT rather mechanically, restricting e-learning integration to teaching aids and ICT. This replicates the attitudes and behaviours of the teachers in the current study, who did not promote e-learning and ICT integration into their classrooms as they felt it was not beneficial to the overall learning process. On the other hand, as shown in Figure 7, Paneru (2018) found that EFL teachers who applied a Functional Practice approach to ICT integration for EFL learning tended to use ICTs for active and interactive learning as well as expository teaching, thus promoting student-centred and collaborative learning. This replicates findings from previous literature discussed in previous chapters, where a positive link between using ICT and e-learning and students' outcomes was found.

Figure 6

Formal Approach to ICT integration in EFL learning (Paneru, 2018, p.157)
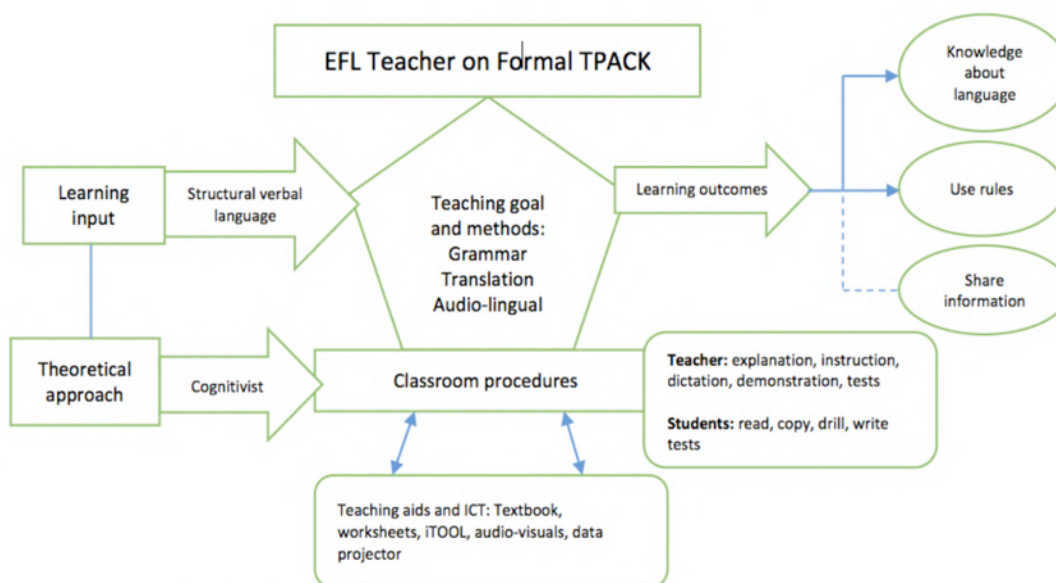
Figure 7

Functional Approach to ICT integration in EFL learning (Paneru, 2018, p.159)
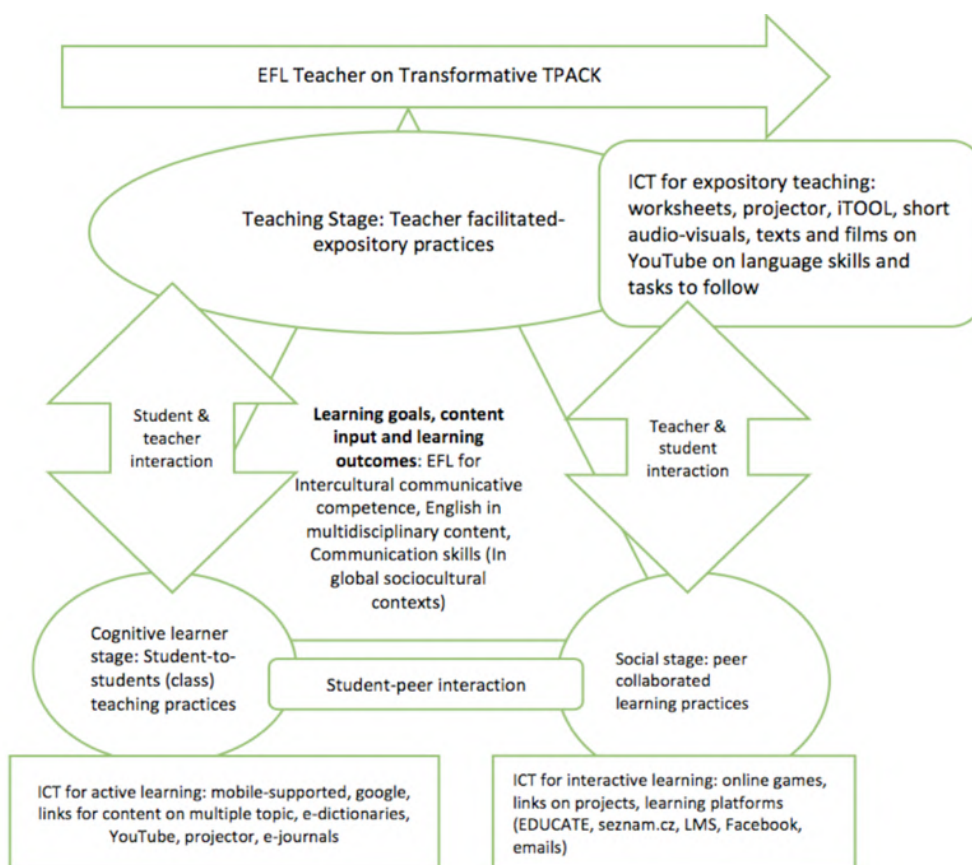
In the case of the e-EFL teachers in the current study's context, it is recommended that they should be trained to distinguish between the Formal and Functional approaches to ICT integration. It is recommended that additional training is provided to e-EFL teachers in KSA to increase their awareness on the benefits of the functional approach, and its practical examples applied successfully in other countries. When comparing both approaches, the teachers in KSA will increase their understanding on expanding their classroom and learning experience, and will recognise why their existing Formal approaches may be less effective than the Functional approach. Further, they should be trained to adopt the Functional approach for promoting student-centred learning through creative use of ICT tools which leverage student-peer, student-teacher and teacher-student interactions. As Figure 7 shows, the ICT tools are used not just for delivering content but also for generating interactive, active and self-directed learning. Through appropriate training, teachers in KSA will be able to offer their students a more interactive and engaging learning experience where the students are more driven and self-disciplined in their learning. This

approach is likely to lead to a better standard of learning in KSA, matching the international standards.

5.8.3 Improvement in Institutional and Infrastructural Support Offered to E-EFL Teachers

As poor Internet connectivity and lack of Internet access and devices were key challenges identified by the EFL teachers, there is a need for the university to improve Internet connectivity and access as well as to provide better equipment to the teachers so that teaching and learning are not disrupted. In line with the suggestions made by Taha (2014, p.130) who investigated e-learning in schools in Bahrain, the university in the study context may consider 'install[ing] enough bandwidth to have fast enough web access and browsing'. Further, in line with Taha, it is recommended that the university should work on providing 'an effective information technology infrastructure' comprising 'reliable networking facilities' and 'fast web access' as well as learning management systems.

5.8.4 Promoting Students' Active Learning Through ICTs

To move beyond superficial integration of ICTs in the study context and promote active learning on the part of the learners, it is recommended that teachers should use e-learning activities designed around six key strategies for an ICT-based learning environment. These strategies include establishing a learning community, setting out expectations for the course, making use of ICT tools for promoting community member interactions, supporting members to share and exchange ideas, furnish prompt and suitable feedback and establish a student-centred learning environment (Poll & Weller, 2014). In the following sections, Khan et al., (2017, p.110-113) outline a number of ways in which teachers can use ICT tools to make learning more student-centred:

5.8.4.1 Making Materials More Accessible Online.

The use of mobile e-learning applications helps to increase the real time access of learners to the course resources and materials. This increases the learning opportunities for the students who can learn on the go without necessarily having to wait to learn in regular instructor-led sessions (Khan et al., 2017).

5.8.4.2 Making Materials More Accessible Online.

According to Khan et al. (2017), there are a number of ways to establish a learning community. Engaging learners in activities which enable them to think critically and innovatively. Learners can

engage in discussions, role-plays and debates, thus increasing not just their participation but also ownership of what they are learning. The learners can create video-clips of these activities and utilise audio as well as visual scripting to progress discussions. A clearly outlined syllabus that outlines course expectations/schedule and rubrics that delineate assignment requirements and set out academic standards also contribute to an effective community of learning.

5.8.4.3 Mobilising Classroom Learning Through Online Discussions.

The EFL teachers can engage students more, develop their capacity for critical thinking, enhance their communication and improve their attainment by using discussions to leverage their learning. Discussions can be facilitated through 'learning management systems, video chat tools and discussion boards and forums' which allow communication and exchange of ideas between peers as well as teacher and students (Khan et al., 2017, p.110-113).

5.8.4.4 Assessing Learners with E-learning Tools.

Using developmental and ongoing assessment is useful for students. E-learning tools and platforms provide teachers with multiple ways to assess learners, ranging from online quizzes, polls, drag and drop activities to peer evaluation. Present ICT-integrated assessment of learners includes 'computer-based testing, online quizzes or simple games, and e-Portfolios' (Rednecker, 2013, p.3). Emerging trends suggest that teachers may also be able to make use of technology-enhanced environments, immersive multi-player games, intelligent tutoring systems embedding assessment and feedback and data about learners collected in electronic environments (Learning analytics) to undertake developmental evaluation of the students (Rednecker, 2013, p.5).

5.9   Summary

This chapter presented a discussion of the e-EFL teacher participants' demographic profiles and findings from close-ended and open ended data in the teacher questionnaires. The findings largely confirmed existing research on EFL teacher perceptions and use of ICT tools for EFL learning which suggests that EFL implementation is not adequately effective. In addition, the findings identified the challenges faced in using the ICTs in the study context. While the teachers were largely positive towards the use of e-learning tools and made use of them to a limited extent in their instructional contexts, they lacked awareness of using ICTs to promote student-centred learning. The EFL teachers' limited awareness of their own roles and the functions of e-learning tools in the Saudi e-EFL classroom vis-à-vis autonomous, student-centred learning and self-directed learning envisioned by means of ICT-integration impacts the effectiveness of e-EFL learning. These insights indicate the need for better and in-depth teacher training that may help

e-EFL teachers to develop 'professional digital competence' (Lund et al., 2014, p.280) and to understand that their own roles, how they make use of e-learning tools and their students' learning processes are interdependent and connected.

The findings from the student data showed that while the learners had positive perceptions of learning English with ICTs, they were not able to utilise the ICTs at their disposal to the fullest extent which indicates that they require greater awareness of and guidance as to the deployment of e-learning for effective e-EFL learning (see section 5.7).

Following this, the chapter discussed a range of recommendations for addressing the issues identified in the study, namely limited use of ICTs by teachers and students in student-centred and self-directed learning. The next chapter will provide a conclusion to the thesis, including summary of key findings, implications and future directions.

6   Conclusion and Recommendations

6.1   Introduction

This chapter provides the conclusion to the thesis, also reprising the research objectives and questions and providing a summary of key findings. In addition, it highlights the contribution of the study and presents a set of actionable recommendations to address the issues highlighted in the findings. Further, it delineates the limitations of the study, offering possible research trajectories for future researchers. It ends with a conclusion summarising the key insight to emerge from the analysis and outlining the ramifications of this for Vision 2030 unless EFL pedagogy is redefined in the light of e-learning integration

Two imperatives were found in the literature to exercise a particularly strong influence on the integration of e-learning for heutagogical learning in the Saudi e-EFL context. The first comprised an ongoing materialisation of the Saudi government's 2030 Vision aimed at 'reforming educational systems in order to prepare students to participate in a competitive labor force' (Bunaiyan, 2019, p.8). It is suggested that if KSA in line with its Vision 2030 wishes to transform into a knowledge-based economy, the country 'must adopt those traits (including language) that have helped other nations to lead the economy of the world' (Alzahrani, 2017, p.8). The reciprocity between successful transformation into a knowledge economy and English language proficiency is mediated by the need for a learner-centred pedagogy. Such a pedagogy not only encourages learners to interact with the materials and reflect on how they are progressing but also, guided by their teachers, allows them to apply and assimilate information they have gained from a variety of sources 'into real world problems' (Patel-Junankar, 2018, p.8). Key to developing such a pedagogy is yoking the 'power of technology' (Patel-Junankar, 2018, p.8) to promote active self-directed student learning. Hence, in order to transition into a knowledge-economy, university learners in KSA need to transform into self-directed learners who are supported by their teachers learn to use available ICTs and e-learning to extend their learning beyond the classroom.

The second imperative is the unforeseen global COVID pandemic that changed the landscape of education across the world and necessitated a swift shift to online learning. With the emergence of the COVID-19 pandemic in 2020, e-learning gained greater significance, with the need for social distancing curtailment of face-to-face interaction in order to contain the spread of the virus amongst populations, thereby affecting all domains of human life including education (Teräs et al., 2020, p.863). Consequently, the educational institutions across global settings made strenuous effort to swiftly prevent or restrict disruptions to academics, leading to 'an unprecedented push to online learning' (Teräs et al., 2020, p.863). With health and safety

concerns in the COVID era making e-learning a feasible alternative to face-to-face learning, the Saudi Ministry of Education (MOE) also launched a number of initiatives to transition higher education institutions (HEIs) to online learning in order to ensure educational continuity to the students. According to the UNESCO report on the efforts of the Saudi Ministry of Education (MOE) to combat coronavirus pandemic (2020), the MOE strove to implement distance learning in the government-funded and private sector higher education institutions. Hence, to address emerging challenges, the MOE expanded learner access to Internet where it had been unavailable and provided free access to educational websites. The MOE also extended training to teachers and learners so that they could learn to use virtual learning technologies and distance learning platforms effectively. It further strove to mitigate student anxiety over lack of contact with teachers by introducing virtual advising hours (UNESCO, 2020, p.26-28).

However, as elaborated in earlier chapters (Chapters 1 and 2), the true potential of online learning can only be unlocked fully if appropriate steps are undertaken to ensure that it does not peter out into mere replication of face-to-face classroom learning. In the post-COVID era, the move to online learning has had to be made without advance notice. Hence, despite swift steps towards adopting 'new forms of pedagogy and tremendous initiatives from individual academics and institutions', much of the education delivered online continued to replicate conventional campus-based learning (Burquel & Busch, 2020, para 7-8). The shift to online learning is not just a shift to different modes. There is considerable scope for more 'personalised education' and innovative learner assessment under the new paradigm of learning (Burquel & Busch, 2020, para 7-8).

In the context of this study, both imperatives have intersected to promote the need for increasing integration of digital technologies and self-directed learning in KSA. Against this backdrop, educational reforms have targeted the fostering of student-centred learning through the effective integration of digital technologies for e-learning. However, literature (Chapter 2) indicates that without a necessary shift in teachers' pedagogical approaches, only superficial adoption of e-learning for promoting university level Arab e-EFL learners' self-directed learning may be expected. This study, therefore, sought to study the ways in which digital technologies have been introduced and used in a Saudi e-EFL classroom in order to establish whether ICT tools have been accompanied by a paradigm shift to learner-centred methods of pedagogy.

A survey methodology was adopted to explore the e-EFL at Jeddah University in Jeddah, Saudi Arabia, where funding has supported digital technology implementation. The study was framed by Hase and Kenyon's (2013) heutagogical framework and explored both teachers' and students' perceptions of digital technology use for e-learning and pedagogical practices.

6.2   Objectives of the Study and Research Questions

The study was framed by the following questions:

RQ1: What digital technologies and e-learning strategies been incorporated into the tertiary e-EFL classroom in Saudi Arabia?

RQ2: In what ways have digital technologies and e-learning strategies been integrated in the tertiary Saudi e-EFL classroom?

RQ3: Based on the teachers' perceived usefulness of ICT, ease of use, educational benefit, impact on teaching, self-efficacy and training attended, how do the participating teachers use e-EFL to move their learners towards heutagogical learning?

RQ4: How are students using e-EFL to develop as heutagogical learners in relation to goal commitment, affective, social connection, resource, metacognitive and culture regulations of their learning experiences?

The current study had three key purposes: (a) to identify which digital technologies have been integrated in the Saudi e-EFL higher education classroom, (b) to examine the ways in which these digital tools for e-learning are being used by the teachers, and c) to explore whether the use of these digital technologies was accompanied by a paradigm shift to learner-centred pedagogy as intended. Thus, this study inquired into the perspectives and experiences of both teachers and students from an e-EFL higher education setting, collecting quantitative data on the teachers' use of technology and learners' e-learning experiences. Qualitative data were also collected from teachers to be discussed within quantitative data. The study examined Saudi e-EFL teachers' experiences in regard to e-learning with reference to which digital technologies they used and the ways in which they deployed these technologies. It investigated EFL learners' e-learning experiences in terms of the extent to which this promoted their self-efficacy and heutagogical learning.

6.3   Summary of Key Findings

The e-EFL teachers participating in the study made use of a range of ICT tools for communication, presentation of content, assessment and resource sharing. This included PowerPoint, email, Virtual Learning Environments, online quizzes, task explanation/materials provision via smartphones and educational CD/VCDs. The teachers generally viewed these ICT tools as being useful for their teaching and demonstrated positive perceptions of ease of use of ICT for functional purposes such as storage, communication and as a support for conceptual understanding. The teacher participants were quite confident in their ability, preference for and commitment to making

strategic use of ICT to promote e-EFL learning and in deploying suitable ICT tools. However, they reported experiencing technical problems in using ICT and in undertaking problem-solving in using ICT. A majority of the teachers revealed that university ICT trainings had helped them, but some of them agreed to the need for more trainings. In relation to e-EFL teacher participants' perceptions of the link between e-learning and active learning, the findings were less unequivocal. The teachers believed that ICTs played a positive role in helping e-EFL learners with their future careers, opportunities to get access to up to date information and the opportunity to study new things. They also agreed that ICTs could aid the students' language learning experience in other ways, ranging from improvements in their self-expression and learning, more meaningful learning and greater self-confidence as well as improved pedagogical abilities.

However, the e-EFL teachers were less positive about the role of ICT in helping students to progress towards active learning. Many of the teachers simply did not believe that ICTs promoted student-centred learning or that it could support students' active learning. The e-EFL teachers appeared to view ICTs as an aid to their teaching rather than as a learning tool for the students. This limited view meant that they perceived ICTs as being ineffective for promoting active learning amongst the e-EFL learners. At the heart of this perception was the missing awareness on the part of the e-EFL teachers that teacher mediation and guidance were essential to the effective use of ICTs by learners for in-class and beyond-class e-EFL learning. Simply put, the learners could not be expected to make efficient use of ICTs and move towards heutagogical learning unless their teachers' pedagogy supported them towards this end (e.g., through ICT-integrated instruction, content delivery, assessment, extended learning, collaborative learning, problem-solving, self-regulated learning).

Based on analysis of the qualitative data from the teachers' questionnaire, the complex nature of ICT deployment aimed at fostering student-centred, heutagogical learning in the e-EFL classroom and beyond in the Saudi context was highlighted. The e-EFL teachers identified a range of factors (technical, teacher-related, student-related) affecting ICT-integration in EFL teaching/learning.

The devolving of responsibility to learners (to promote active and independent learning) was generally viewed by the teachers from a pedagogical perspective, for instance in terms of group work, topic choice and pacing of lesson. This was in contrast to the idea of integrating ICTs in EFL learning for fostering the conscious use of technology throughout the process of teaching and learning. Thus, the e-EFL teachers' existing view of devolving responsibility to learners rested on the notion of ICT integration as something to be tacked onto EFL learning as an afterthought, rather than e-learning that was integrated seamlessly into learning processes within and beyond the classroom to ensure active student learning. Limited teacher awareness of how ICTs are

aimed at facilitating student-centred learning was also in evidence. None of the teachers were able to explicate the link between their role as teachers, the learning environment/goals and the role of ICT. Moreover, the teachers did not necessarily make the link between e-EFL teaching/learning, ICTs and heutagogical learning.

In the Saudi context, the investment in educational ICTs is part of a reform package that aims to prepare autonomous learners who are prepared for effective participation in the highly competitive knowledge economy. Student-centred learning and self-directed learning by means of ICT-integration are held to be key to achieving this vision. Based on the findings of this study, it may be argued that the e-EFL teachers' limited awareness of their own roles and the functions of e-learning tools in the Saudi e-EFL classroom hampers the development of active and self-directed learners. Hence, these insights flag the need for better and in-depth teacher training that may help e-EFL teachers to i) develop 'professional digital competence' (Lund et al., 2014, p.280) and ii) to understand that their own roles, how they make use of e-learning tools and their students' learning processes are interdependent and connected.

From the learners' perspective, it was evident that the e-EFL learners had access to Internet at home, university and on their mobile devices and used a variety of technology devices for learning at university (e.g., mobile phones, laptops, tablets and desktops). VLEs, mobile learning applications and smartboards were available to the learners in the e-EFL classroom. ICT tools were predominantly used for academics, social interaction and entertainment. The e-EFL learners tended to view e-learning positively and showed a strong preference for learning with ICTs over paper-based learning. However, the learners reported limited engagement with e-learning tools during the week. They made use of ICTs mostly for culture, resource and goal commitment regulation of their language learning experience. Culture regulation may be understood as a process whereby learners use a range of e-learning tools 'to seek answers to the questions about the language and culture and to interact with the target culture so that they can understand and appreciate the target culture better' (Rahimi & Bigdeli, 2014, p.7). Resource regulation pertains to providing learners with the opportunities to learn and communicate in the target language, e-learning enables learners to expand their learning experience beyond the physical confines of their EFL classrooms (Rahimi & Bigdeli, 2014). Commitment to the goal is materialised through a process of self-regulation that involves individuals i) preparing themselves for transformation, ii) delineating and assigning a goal, iii) generating and implementing plans to execute the goals and iv) monitoring the progress made in attaining the set goal (Cavadel et al., 2018, p.2).

The other regulations were used to a limited extent which indicates the need for learners to be more aware of using ICTs to regulate diverse aspects of their language learning experience.

Based on these findings, it can be concluded that learners were not able to utilise the ICTs at their disposal to the fullest extent which indicates that they require greater awareness of and guidance as to the deployment of e-learning for effective e-EFL learning.

Literature suggests that it is important to prepare and support learners in the effective utilisation of technology (Blake, 2008; Winke & Goertler, 2008) and to train them in making the best use possible of online resources (Romeo & Hubbard, 2010). Given the importance of teacher support on learners' self-regulation in e-EFL learning with ICTs (e.g.,Çelik et al., 2012; Lai & Gu, 2011), it is evident that the e-EFL learners in the current study require explicit guidance on using e-learning for realizing their language learning goals and becoming heutagogical learners.

6.4   Contribution of the Study

Existing research on integration of e-learning into the Saudi EFL setting has ranged from investigations into teacher attitudes (Abalhassan 2002; Al-Asmari 2005; Gamlo 2014; Mohsen & Shafeeq, 2014), learner attitudes (Al Shammari, 2007) to research on utility of ICT in Saudi EFL classroom (Alaboudi, 2014; Almudibry, 2012; Almutairi, 2014; Alotaibi, 2009). However, the existing literature does not seem to have turned its attention to the need for the redefining of pedagogy in response to the increasing integration of ICTs in the e-EFL classrooms within KSA universities.

In the current study, while e-EFL teachers had positive perceptions of e-learning on their teaching and on learner outcomes, in general, they did not view e-learning as promoting active learning on the part of the learners. This is an important finding, as previous scholarly literature discussed in previous chapters indicated that e-learning tasks are effective in promoting learners' interest and motivation to learn, which is important for self-driven learning. If e-EFL teachers in KSA do not believe that e-learning is effective, this can affect how self-driven their students are. They also tended to use ICTs in limited ways as teaching aids and tools rather than as the means to catalyse active student learning. This meant that they overlooked their own key role in helping their students become active learners. This finding shows that e-EFL teachers did not recognise the power that ICT can have on increasing students' motivation and engagement, which is likely to generate better learning outcomes. The learners' own use of e-learning for language learning was limited not only in terms of time spent on this but also in terms of the types of regulations they accessed by means of ICTs for effective language learning. It was evident from the data that the learners also lacked guidance and awareness-raising in how to use ICTs for e-EFL learning more effectively. This is likely to be an outcome of lack of awareness of e-EFL teachers, who do not

realise the full potential of using ICTs in learning, and who likely did not promote it to their students as a result.

The key contribution of this study is that it moves EFL pedagogy into the spotlight when weighing the effectiveness of e-learning integration into EFL learning and the preparation of active self-directed learners in the Saudi context. From these findings, it became clear that e-EFL teachers in KSA did not fully believe or utilise the potential offered by the ICTs and e-learning activities as part of learning, and thus did not reach the full potential for their students. By highlighting of i) the need to re-evaluate the pedagogical training needs of e-EFL teachers in response to the growing integration of ICTs in Saudi universities and ii) the impact of how teachers' views of e-learning and their own roles shape the experiences of the e-EFL learners, this study opens up avenues for future research that may reassess EFL pedagogy as a significant variable in the successful integration of e-learning in the KSA pedagogical contexts. Especially when compared to the findings from previous literature from other countries, it becomes clear how he attitudes and awareness of teachers in KSA may affect the potential of their students. Through current findings, this study can help to promote an awareness shift, which over time can lead to better education results for KSA students.

Further, it provides policy makers, universities and training providers with the impetus to respectively recalibrate policies, measures and training to address clearly-identified issues of perception, awareness and knowledge obstructing the development of self-directed e-EFL learners by means of e-learning integration in KSA universities. It is not enough to provide the right kind of infrastructure, tools and technologies and expect ICT-supported self-directed learning to transpire on its own. This study clearly shows that e-EFL teachers do not promote these technologies to their students as they simply do not consider them to be effective, due to lack of awareness of its benefits. Instead, a concerted attempt is required to re-examine EFL pedagogy and understand how teacher beliefs, perceptions and knowledge shape the language learning experience of with the help of ICTs and promote or hinder active learning on the part of the learners.

Figure 8

Model of Influences on KSA E-EFL Learning
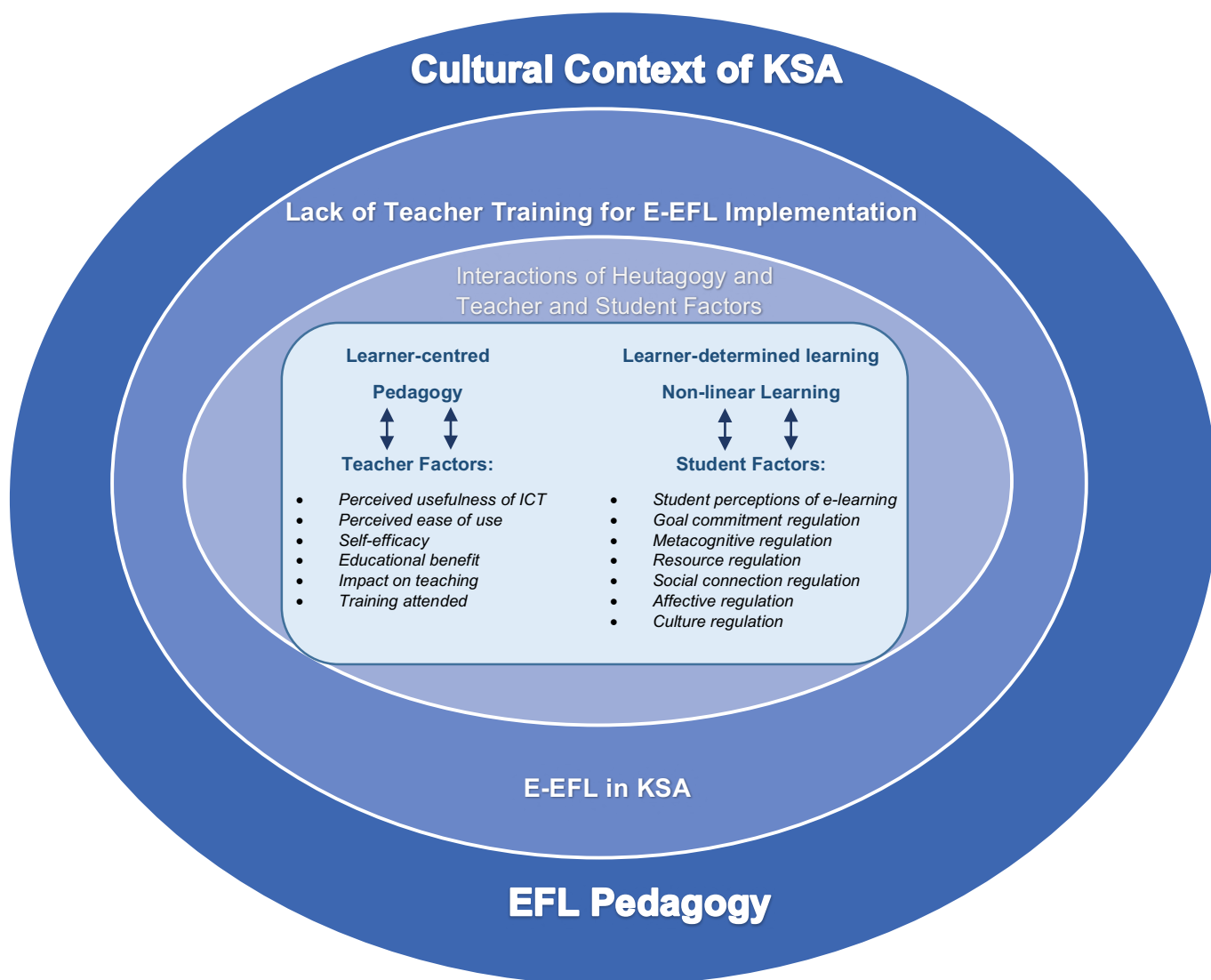
The model in Figure 8 was presented in Chapter 2. Based on the findings of this study, it can be said that the model does adequately represent the state of affairs in the research setting. Analysis of teacher data suggests that the participants largely did not view e-learning as promoting active learning on the part of the learners. They also tended to use ICTs in limited ways as teaching aids and tools rather than as the means to catalyse active student learning. This meant that they overlooked their own key role in helping their students become active learners. Further, while a number of the participants who had received training had found them helpful, they reported the need for more training. The narrow use of ICT tools and limited trainings suggest as showcased

in the model that the lack of adequate training obstructs teachers from promoting heutagogical learning in the EFL classroom. Based on these findings, I developed the revised conceptual model (presented in Figure 9 below). I use this model to attempt to highlight the importance of incorporating TPCK training for EFL teachers in KSA, which has the potential to lead to successful integration of e-EFL in the country, leading to more heutagogical learning.

6.5   Recommendations

In view of the findings which have emerged in the current study, this thesis presents a range of recommendations to address the identified issues and challenges with regard to student-centred e-learning in the Saudi e-EFL context.

This study found that teachers generally had a positive attitude towards student centred learning and agreed as to the need for learner autonomy and its relevance to the development of learners' lifelong learning skills. They even felt that they encouraged it through pedagogical strategies that included giving learners a say in topics, pacing and activity choice. However, most of the teacher participants were unable to connect learner autonomy with their own use of ICT tools as well as to the roles they performed as teachers. Their use of ICTs for learning tended to be superficial and deployed largely for teaching tasks and admin rather than for helping their learners to use the ICTs for learning independently or learning beyond the classroom. When considered in tandem with their inability to understand that devolving responsibility to learners actually entailed working with the latter to deploy ICTs in ways that fostered autonomy, a clear need for professional development 'which includes a focus on pedagogy as well as content knowledge for effective ICT use' (Khan, 2014, p.21) became identifiable.

6.5.1   Teacher Training and Professional Development

Digital proficiency and ICT training enable teachers to become better equipped for developing their learners' 'higher order thinking skills, providing creative and individualised options for students to express their understandings and preparing students to deal with ongoing technological change in society and the workplace' (UNESCO, 2021).

In view of the above, this study recommends that e-EFL teachers should receive technological pedagogical training that provides Technological Pedagogical Content Knowledge (TPCK), a comprehensive framework for teacher knowledge proposed by Mishra and Koehler (2006) Teachers who need to provide ICT-integrated teaching and learning must know how to represent concepts with the help of ICTs and deploy pedagogical techniques that make productive use of

technologies for teaching content (Mishra & Koehler, 2006). They must also know what makes concepts challenging or not and how technologies can be harnessed to address challenges faced by learners. Additionally, according to the TPCK, teachers must also demonstrate insights into 'students' prior knowledge and theories of epistemology' 'and knowledge of how technologies can be used to build on existing knowledge and to develop new epistemologies or strengthen old ones' (Mishra & Koehler, 2006, p.1027-1029).

Training e-EFL teachers to develop professional digital competence is very important for successful learner-centred e-learning to take place. In view of the findings of this study, professional development which is based on developing comprehensive competence in the types of knowledge undergirding TPCK would benefit e-EFL teachers expected to deliver an ICT-integrated language learning experience that promotes self-directed learning. It would help them to understand the connections between pedagogy, technology and attitudes more holistically and help them to support student-centred learning.

Relevant training and development is needed to equip e-EFL teachers to deploy e-learning effectively. It is argued that 'effective use of ICT in class cannot only rely on traditional teacher training courses [which tend to be] understood as a learning set of non-contextualised training contents' (Sánchez-García et al., 2013, p.533). In line with the above, it is recommended that e-EFL teachers should learn to make use of ICT effectively for pedagogical purposes by means of in-house mentoring and peer collaboration so that their insights are contextualised to their respective settings.

6.5.2   Digital Upskilling of E-EFL Teachers for ICT Problem Solving and Creative Use of ICT Tools for Students' Active Learning

In addition, the study found that the e-EFL teachers evidenced limited expertise in ICTs which constrained teachers from supporting learners in ICT use for learning. Therefore, it is recommended that the teachers should be trained to use various ICTs so that they learn to deploy them beyond content delivery or admin purposes. Such training would also enable teachers to extend adequate guidance to the e-EFL learners for advancing their learning beyond the classroom with the help of appropriate ICT tools. In order to design and provide such training, it is important to understand what approaches to ICT integration have been identified and how they hinder or promote student-centred learning. Research suggests that participating teachers tended to 'undertake a conservative mechanical practice of technology use in language teaching' (Formal Practice) or to use ICT 'in terms of (social) construction' (Functional Practice) (Paneru, 2018, p.1) According to Paneru, EFL teachers integrate ICT rather mechanically, restricting e-learning

integration to teaching aids and ICT. However, when they apply a Functional Practice approach to ICT integration for EFL learning, the teachers made use of ICTs for active and interactive learning in addition to expository teaching, thus promoting student-centred and collaborative learning.

Therefore, it is recommended that the e-EFL teachers should learn to distinguish between the Formal and Functional approaches to ICT integration. Further, they should be trained to adopt the Functional approach for promoting student-centred learning through creative use of ICT tools which leverage student-peer, student-teacher and teacher-student interactions. This will enable the teachers to understand that ICT tools are used not just for delivering content but also for generating interactive, active and self-directed learning.

6.5.3   Improving Institutional and Infrastructural Support Offered to E-EFL Teachers

The e-EFL teachers revealed that poor Internet connectivity and lack of Internet access and devices were key challenges in their e-EFL classrooms. Therefore, it is recommended that there is a need for the university to improve Internet connectivity and access as well as to provide better equipment to the teachers so that teaching and learning are not disrupted. Research suggests that 'install[ing] enough bandwidth to have fast enough web access and browsing' and providing 'an effective information technology infrastructure' comprising 'reliable networking facilities' and 'fast web access' as well as learning management systems can help to resolve many of these challenges (Taha, 2014, p.130).

6.5.4   Promoting Students' Active Learning Through ICTs

To address superficial integration of ICTs by the e-EFL teachers and promote active learning on the part of the learners, it is recommended that teachers should use design e-learning activities around six key strategies for an ICT-based learning environment. These strategies cover i) setting up a learning community, ii) outlining expectations for the course, iii) deploying ICT tools for promoting community member interactions, iv) facilitating members to share and exchange ideas, v) furnishing prompt and suitable feedback and vi) establishing a student-centred learning environment (Poll & Weller, 2014). Teachers can also be trained to use ICT tools to make learning more student-centred as described in sections 6.5.4.1 to 6.5.4.4 (Khan et al., 2017, p.110-113).

6.5.4.1   Making Materials More Accessible Online.

The use of mobile e-learning applications helps to increase the real time access of learners to the course resources and materials. This increases the learning opportunities for the students who

can learn on the go without necessarily having to wait to learn in regular instructor-led sessions (Khan et al., 2017, p.110-113).

6.5.4.2 Establishing an Online Learning Community.

According to Khan et al. (2017), there are a number of ways to establish a learning community. Engaging learners in activities which enable them to think critically and innovatively. Learners can engage in discussions, role-plays and debates. This increases not just their participation but also ownership of what they are learning. For discussions, the learners can create video-clips of these activities and utilise audio as well as visual scripting. A clearly outlined syllabus can also play a role in fostering such a community. It must outline course expectations/schedule and rubrics that delineate assignment requirements and set out academic standards. This not only helps the learners to develop a greater sense of community which is necessary for dialogue, collaboration and exchange of ideas as well as learner self-regulation and self-direction.

6.5.4.3 Mobilising Classroom Learning Through Online Discussions.

The e-EFL teachers can engage students more, develop their capacity for critical thinking, enhance their communication and improve their attainment by using discussions to leverage their learning. This promotes students' active learning. Discussions can be facilitated through 'learning management systems, video chat tools and discussion boards and forums' which allow communication and exchange of ideas between peers as well as teacher and students (Khan et al., 2017, p.110-113).

6.5.4.4 Assessing Learners with E-learning Tools.

Developmental and ongoing assessment are essential for developing students' learning. E-learning tools and platforms allow teachers to assess learners in multi-faceted ways. These range from online quizzes, polls, drag and drop activities to peer evaluation. Existing ICT-integrated assessment of learners includes 'computer-based testing, online quizzes or simple games, and e-Portfolios' (Rednecker, 2013, p.3). However new trends in technology suggest that teachers may also be able to take advantage of advanced technologies for developmental evaluation of the students. These include technology-enhanced environments, immersive multi-player games, intelligent tutoring systems embedding assessment and feedback and data about learners collected in electronic environments (Learning analytics) (Rednecker, 2013).

6.5.5 Recommendations Summary

In view of the findings of the study and the above discussion, it is evident that the Saudi e-EFL teachers would benefit from more comprehensive knowledge that encompasses epistemological, pedagogical and technical expertise and skills in order to promote students' heutagogical learning. As TPCK is key to achieving this, Figure 9 below presents a revised version of the model presented in Chapter 2. As the figure shows, TPCK has been integrated as a training-based solution to help e-EFL teachers to promote heutagogical learning by the students as well as to improve their own utilisation of e-learning tools in the instructional setting.

Overall, the current study is valid and reliable on several counts. The use of validated questionnaires from prior studies and validity measures detailed in Chapter 3 demonstrate fulfilment of instrument validity. The careful detailing of research instruments and procedures in Chapter 3 also allows for replication of the study should any researcher wish to replicate this research to test the consistency of the results.

Figure 9

Revised Conceptual Model
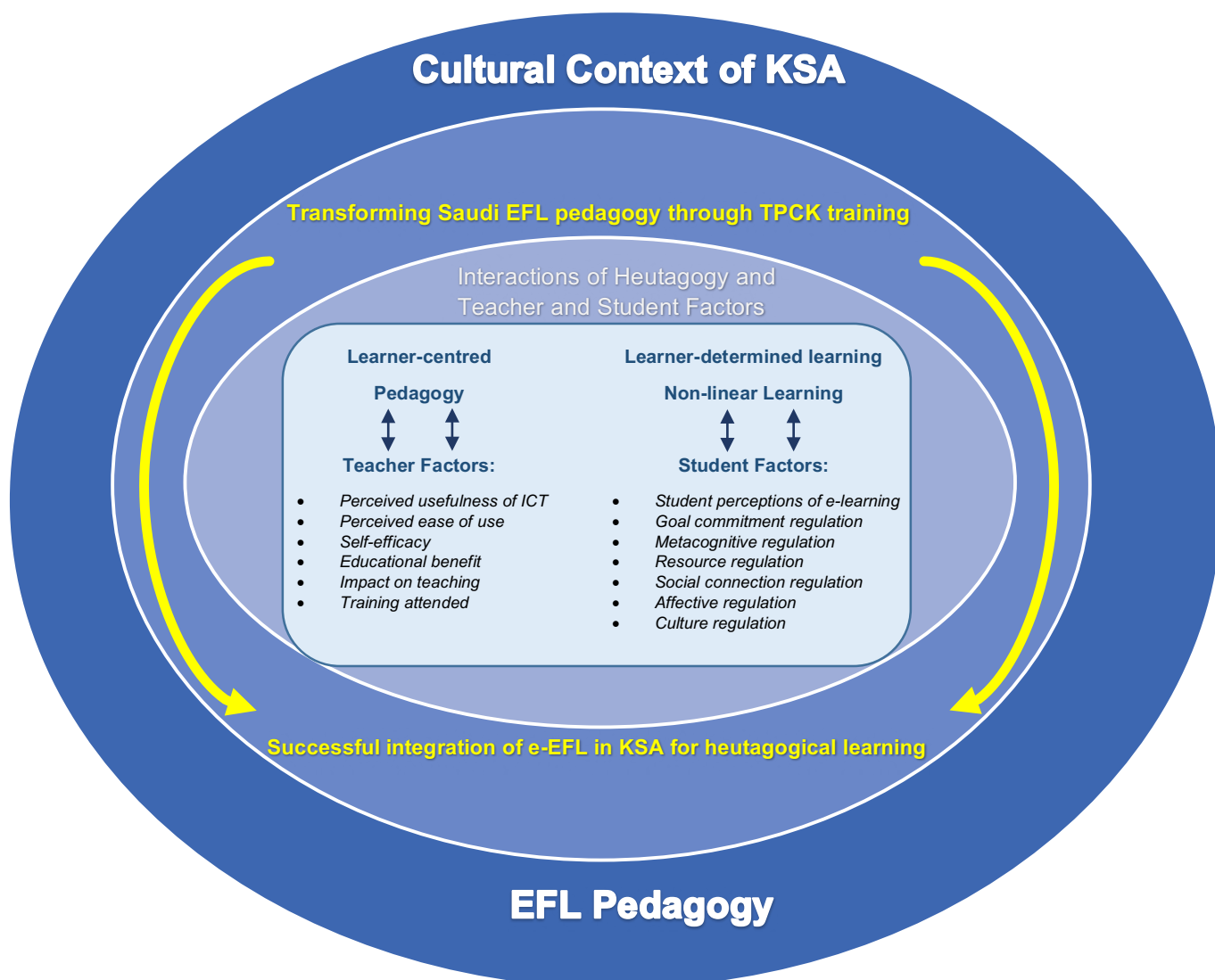
6.6   Limitations

Although limited in scope, this study charted a new trajectory in that it investigated the hitherto unexplored topic of how e-EFL learner pedagogy may influence e-learning integration for students' active learning. However, due to the limitations of scope and time constraint, the study featured a number of limitations. Many of these had to do with the study sample and research setting. Only 343 students and 41 female teachers from a university for women in KSA were sampled. The focus on a women's university was due to strict segregation of men and women in KSA which also limited researcher access to participants of the opposite gender. The small

sample size limits the generalisability of the findings, and future studies may include more participants in order to come up with findings that have wider applicability. In view of the above, the results of this study are more likely to be applicable to female learners in the KSA university context.

Also, future studies may also sample teachers and students from other universities, especially institutions with male students and teachers to achieve more representativeness in participant perspectives. Further, a number of the teachers were non-Saudi faculty, and studies in the future may wish to account for the variable of nationality (differences in training, education and exposure) when investigating e-EFL teacher perceptions of ICT-integrated learning and impact of these on promoting student-centred learning.

This study made use of questionnaires to collect the data, but a more nuanced and in-depth picture of e-learning integration in the KSA EFL context may be achieved if future researchers combine questionnaires with qualitative methods such as interviewing or participant observation. Qualitative data were analysed in this study. However, a more thorough qualitative data collection (e.g., collecting qualitative data from the students also) may have benefited the study. While the present study sought only to identify teacher and student perceptions of the e-learning integration in the e-EFL context, studies in the future may integrate an intervention to bring about a change in the setting. Last but not least, while this study integrated the perspectives of e-EFL teachers and students, other researchers may include policy makers and university management to gain a more holistic picture of the phenomenon under-study.

In terms of future research questions arising out of unanswered questions from the current study, there is an urgent need to examine the provenance of Saudi EFL teachers epistemological and pedagogical beliefs and how these shape their classroom practices vis-à-vis technology and heutagogical learning. Knowing the origin of their beliefs would allow a better understanding of influential variables such as societal culture and institutional practices. In turn, this understanding can be leveraged to address the hindrances caused by such factors in promoting heutatogic learning. Further, for the same reasons, there is also a need to look closely at e-EFL learners' beliefs about how they learn and who they believe to be responsible for their learning and how they deploy e-learning tools. The surveyed data in this study provided broad insights into the above which need to be probed in-depth in future studies.

6.7 Conclusion

It is clear from literature that the KSA government has undertaken considerable infrastructural and technical investment in integrating e-learning technologies into educational settings. Its Vision

2030 foresees e-learning as catalysing student-centred learning as well as advancing EFL proficiency. However, as the findings of this study suggest, the EFL teachers are unable to understand how they use ICT technologies and the pedagogical approach they adopt influence student learning and their capacity to work in a self-directed manner. In view of this, the government's vision for a well-prepared and autonomous workforce ready to participate effectively in the knowledge economy is unlikely to materialise as intended.

Although the scale of the present study might be somewhat limited, its findings do flag the need for the KSA government, policy makers, the universities and the research community to turn their attention to providing e-EFL teachers with the epistemological, pedagogical and technological knowledge they need to use ICTs to help students to develop EFL proficiency as well as the capacity to learn in self-directed ways. At the same, e-EFL learners must be supported to become aware of how ICTs can be used to regulate their language learning experiences. Without such efforts, it is likely that the KSA Vision 2030 for ICT-integrated language learning and student-centred learning will remain an unfulfilled promise, perhaps jeopardising other elements of the vision that depend on the achievement of these latter objectives. The urgency for addressing the identified gaps is all the more pressing due to the shift to online learning in the post-COVID era and restrictions on face to face teaching and learning. The integration of e-learning tools in the Saudi context and the drive towards developing heutagogical learners do not attenuate the role of the teacher. Rather they foreground it. As one of the teacher participants succinctly observes, '*student-centred learning can never diminish the role of a teacher. In fact, it puts the teacher at the helm where he/she facilitates learning and aims to create a more productive classroom environment, where students* develop skills that will help them for their future lives. Hence, in the light of the findings of this study, the way forward is to furnish e-EFL teachers with the epistemological, pedagogical and technological repertoire they need to use e-learning tools for enabling e-EFL students to transform into heutagogic learners.

References

Abalhassan, K. M. I. (2002). *English as a foreign language instruction with CALL multi-media in Saudi Arabian private schools: A multi-case and multi-site study of CALL instructors' pedagogies and beliefs* [Unpublished doctoral thesis]. Indiana University of Pennsylvania.

Abalkhail, J. M. & Abalkhail, J. M. (2017). Women and leadership: Challenges and opportunities in Saudi higher education. *Career Development International*, *22*(2), 165–183.

Abdumutalibovich, M. A. (2022). The role of the system of authorities and the historical formation of shashmaqom in the teaching of music to students of higher education. *Academicia Globe: Inderscience Research*, *3*(2), 1-7.

Abouelnaga, H. M., Metwally, A. B., Mazouz, L. A., Abouelmagd, H., Alsmadi, S., Aljamaeen, R.,... & Hamad, A. L. (2019). A survey on educational technology in Saudi Arabia. *Int. J. Appl. Eng. Res*, *14*(22), 4149–4160.

Abraham, R. R., & Komattil, R. (2017). Heutagogic approach to developing capable learners. *Medical Teacher*, *39*(3), 295–299.

Ahmed, M. D. (2015). Can smartphones pave the path towards EFL competence for Saudi college students? *Education and Linguistics Research*, *1*(2), 120–144.

Ajayi, L. (2009). An exploration of pre-service teachers' perceptions of learning to teach while using asynchronous discussion board. *Educational Technology & Society*, *12*(2), 86–100.

Al Fadda, H., & Afzaal, M. (2020). International standards for e-learning ESL programs: A comparative study. *Revista Argentina de Clínica Psicológica 29*(5), 174.

Al Shammari, M. H. (2007). *Saudi English as a foreign language: Learners' attitudes toward computer-assisted language learning* [Unpublished doctoral thesis]. West Virginia University.

Al Shlowiy, A. S. (2016). *Promoting EFL learning outside the classroom through the use of web-based technologies after the adoption of Blackboard in a Saudi University* [Unpublished doctoral dissertation]. University of New Mexico, Albuquerque, United States.

Alabasi, K. M., & Alghamdi, F. M. (2019). Students' opinions on the functions and usefulness of communication on WhatsApp in the EFL higher education context. *Arab World English Journal, Special*, (1), 129–144.

Alaboudi, R. S. (2014). *The utility of second language blogging: Student perceptions from English writing courses in Saudi Arabia* [Unpublished Master's thesis]. Southern Illinois University, Carbondale.

Alahmadi, N., & Muslim Alraddadi, B. (2020). The impact of virtual classes on second language interaction in the Saudi EFL context: A case study of Saudi undergraduate students. *Arab World English Journal (AWEJ) 11*.

Al-Asfour, A. & Khan, S. A., (2014). Workforce localization in the Kingdom of Saudi Arabia: Issues and challenges. *Human Resource Development International*, *17*(2), 243–253.

Al-Asmari, A. M. (2005). *The use of the internet among EFL teachers at the colleges of technology in Saudi Arabia* [Unpublished doctoral thesis]. Ohio State University.

Al-Asmari, A. M. & Khan, M., (2014). World Englishes in the EFL teaching in Saudi Arabia. *Arab World English Journal*, *5*(1).

Albaqami, H. M. (2019). *Preparing pre-service teachers to use digital visual media for twenty-first-century teaching and learning: Practices and visions of teacher preparation programs in Saudi Arabia* [Doctoral dissertation]. University of Northern Colorado.

Al-Dosari, H. (2011). Faculty members' and students' perceptions of e-learning in the English department: A project evaluation. *Journal of Social Sciences*, *7*(3), 291.

Alebaikan, R., & Troudi, S. (2010). Blended learning in Saudi universities: Challenges and perspectives. *Association for Learning Technology Journal*, *18*(1), 49–59.

Alenezi, A. R., Karim, A. M. A., & Veloo, A. (2010). An empirical investigation into the role of enjoyment, computer anxiety, computer self-efficacy and internet experience in influencing the students' intention to use e-learning: A case study from Saudi Arabian governmental universities. *TOJET: The Turkish Online Journal of Educational Technology*, 9(4), 22-34.

Alfaifi, M. S. (2016). *Self-directed learning readiness among undergraduate students at Saudi electronic university in Saudi Arabia* [Doctoral dissertation]. University of South Florida.

Alfallaj, F. S. S., & Alfallaj, F. (2020). Technology in Saudi EFL undergraduate classrooms: Learning tool or weapon of distraction. *The Asian ESP Journal*, *16*(4), 97–115.

Alghamdi, J., & Holland, C. (2020). A comparative analysis of policies, strategies and programmes for information and communication technology integration in education in the Kingdom of Saudi Arabia and the Republic of Ireland. *Education and Information Technologies*, *25*(6), 4721–4745.

Alghamdi, S. S. (2018). *The effect of EFL teachers' technological pedagogical content knowledge (TPACK) on EFL teaching in Saudi Arabian secondary schools.* [Unpublished doctoral dissertation] University of New England.

Alhaj, A. A., & Banafi, N. H. (2015). The Effects of Web-based Instruction on Saudi medical students' achievements in learning medical terminologies. *Conference Proceedings: ICT for language learning* (p.68). Libreriauniversitaria. IT Edizioni.

Al-Hazmi, S., (2003). EFL teacher preparation programs in Saudi Arabia: Trends and challenges. *TESOL Quarterly*, *37*(2), 341–344.

Al-Hazmi, S., (2015). Current issues in English language education in the Kingdom of Saudi Arabia. *Journal of Modern Languages*, *17*(1), 129-150.

Alhumsi, M. H., Alshaye, R. A., & Sendi, K. K. (2021). The effect of e-learning sessions on the development of reading comprehension: A case of EFL students' perceptions at Saudi Electronic University. *Journal of Education and E-Learning Research*, *8*(4), 431-439.

Al-Jarf, R. (2021). Feasibility of digital multimedia language labs for interpreting instruction as perceived by interpreting instructors in Saudi Arabia. *International Journal of Linguistics, Literature and Translation, 4*(4), 70-79.

Alkhudair, R. Y. (2020). Mobile assisted language learning in Saudi EFL classrooms: Effectiveness, perception, and attitude. *Theory and Practice in Language Studies*, *10*(12), 1620–1627.

Allam, M. & Elyas, T. (2016). Perceptions of using social media as an ELT tool among EFL teachers in the Saudi Context. *English Language Teaching* 9(7), 1-9.

Al-Mansour, N. S. & Al-Shorman, R. A. (2011). The effect of computer-assisted instruction on Saudi University students' learning of English. *Journal of King Saud University-Languages and Translation*, *24*(1), 51–56.

Almekhlafy, S. S. A. (2020). Online learning of English language courses via Blackboard at Saudi universities in the era of COVID-19: Perception and use. *PSU Research Review*, *5*(1), 16–32.

Almerich, G., Orellana, N., Suárez-Rodríguez, J., & Díaz-García, I. (2016). Teachers' information and communication technology competences: A structural approach. *Computers & Education*, *100*, 110–125.

Al-Mubireek, S. (2020). Teacher perceptions of the effectiveness of using handheld devices in Saudi EFL classroom practices. *International Journal of Emerging Technologies in Learning, 15*(22), 204-217.

Almudibry, K. (2012). *The effectiveness of a CALL multimedia classroom on L2 learners' achievements, attitudes, and the word solving strategies frequencies and the perceptions of helpfulness, when compared with learners in traditional classrooms: A quasi-experimental study* [Unpublished doctoral thesis]. Durham University.

Almutairi, S. G. S. (2014). *Managing, and analysing task-based interaction in digital table-top environments* [Unpublished doctoral thesis]. Newcastle University.

Alnahdi, A. (2019). Blended learning in Saudi Arabia: A review. *Global Journal of Education and Training 2*(6), 1-7.

Alnahdi, G. (2014). Assistive technology in special education and the universal design for learning. *Turkish Online Journal of Educational Technology-TOJET*, *13*(2), 18–23.

Alonazi, S. M. (2017). The role of teachers in promoting learner autonomy in secondary schools in Saudi Arabia. *English Language Teaching*, *10*(7), 183–202.

Alotaibi, H. (2009). *The impact of using computers in an EFL reading classroom: An exploratory case study* [Unpublished doctoral thesis]. University of Manchester.

Alqarni, A. A. A., Bown, A., Pullen, D., & Maters, J. (2020). Mobile-assisted language learning in learning Arabic as a second language in Saudi Arabia. *Saudi Journal of Humanities and Social Sciences*, 108-115.

Al-Rasheed, M., (2010). *History of Saudi Arabia*. Cambridge University Press.

Al-Seghayer, K., (2014). The four most common constraints affecting English teaching in Saudi Arabia. *International Journal of English Linguistics*, 4(5), 17.

Alshabeb, A., & Almaqrn, R. (2018). A study of EFL Saudi students' use of mobile social media applications for learning. *Arab World English Journal Special Issue on CALL*, *11*(4), 1-18.

Al-Shehri, S. (2020). Transforming English language education in Saudi Arabia: Why does technology matter? *International Journal of Emerging Technologies in Learning*, *15*(6), 108-123.

Al-Showaye, M. (2002). *Use of computer-based information technology and the Internet in Saudi Arabian intermediate and secondary schools* [Doctoral thesis]. University of Manchester.

Altawil, A. (2016). *Exploring how digital media technology can foster Saudi EFL students' English language learning.* International Association for Development of the Information Society.

Alzahrani, A. (2017). Markets and language policy in Saudi Arabia: How the English language can contribute to the success of the Saudi Vision 2030. *International Journal of English Language and Linguistics Research*, *5*(6), 1–12.

Anderson, J., & Weert, T）.2002）.*Information and communication technology in education, A curriculum for schools and programme of teacher development* .UNESCO.

Andrew, M., Taylorson, J., Langille, D. J., Grange, A., & Williams, N. (2018). Student attitudes towards technology and their preferences for learning tools/devices at two universities in the UAE. *Journal of Information Technology Education: Research*, 341–342.

Ankiewicz, P. (2018). Perceptions and attitudes of pupils toward technology. In M.J. de Vries (Ed.), *Handbook of Technology Education* (pp.581–595). Springer.

Antonelli, C. & David, P., (2015). *The economics of knowledge and the knowledge-driven economy*. Routledge.

Aparicio, M., Bacao, F., & Oliveira, T. (2016). An e-learning theoretical framework. *An E-Learning Theoretical Framework*, (1), 292–307.

Argyris, C. (2002). Double-loop learning, teaching, and research. *Academy of Management Learning & Education*, *1*(2), 206–218.

Argyris, C., & Schon, D. A. (1974). *Theory in practice: Increasing professional effectiveness*. Jossey-bass.

Aristovnik, A., Keržic, D., Tomaževic, N., & Umek, L. (2016). Determining factors of students' perceived usefulness of e-learning in higher education. *International Association for Development of the Information Society*: 3-10.

Azmi, N. (2017). The benefits of using ICT in the EFL classroom: From perceived utility to potential challenges. *Journal of Educational and Social Research*, *7*(1), 111.

Bacca, J., Baldiris, S., Fabregat, R., & Graf, S. (2014). Augmented reality trends in education: A systematic review of research and applications. *Journal of Educational Technology and Society*, *(17)*4,133–149.

Bandura, A. (1977). *Self-efficacy: The exercise of control*. Macmillan.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behaviour* (Vol. 4, pp.71–81). Academic Press.

Barrett, K. W. (2015). Digital Technologies in the Classroom. Month, (Vol. 1, No. 1), pp. 1- 30.

Basak, S. K., Wotto, M., & Belanger, P. (2018). E-learning, M-learning and D-learning: Conceptual definition and comparative analysis. *E-Learning and Digital Media*, *15*(4), 191–216.

Bates, A. T. (2005). *Technology, e-Learning and distance education*. Routledge.

Beblawi, H. (1987a). The Rentier State in the Arab World. *Arab Studies Quarterly*, *9*(4), 383–398.

Beblawi, H. (1987b). The Rentier State in the Arab World, In H. Beblawi and G. Luciani (Eds.), *The rentier state*. Croom Helm and the Istituto Affari Internazionali.

Bell, E., Bryman, A., & Harley, B. (2018). *Business research methods*. Oxford University Press.

Ben-Eliyahu, A., & Linnenbrink-Garcia, L. (2015). Integrating the regulation of affect, behaviour, and cognition into self-regulated learning paradigms among secondary and post-secondary students. *Metacognition and Learning*, *10*(1), 15–42.

Bernard, H. R. (2017). *Research methods in anthropology: Qualitative and quantitative approaches*. Rowman & Littlefield.

Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. *Eurasia Journal of Mathematics, Science & Technology Education, 5*(3), 235–245.

Blaikie, N. (2000). *Designing Social Research*. Polity.

Blake, R. (2008). Distance learning for second and foreign language teaching. In N. van Deusen-Scholl & N. H. Hornberger (Eds.), *Encyclopedia of language and education* (Vol. 4, pp.365–376). Springer.

Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distributed Learning*, *13*(1), 56–71.

Blaschke, L. M. (2018). Self-determined learning (heutagogy) and digital media creating integrated educational environments for developing lifelong learning skills. In *The Digital Turn in Higher Education* (pp.129–140). Springer VS.

Blaschke, L. M. (2019). The pedagogy–andragogy–heutagogy continuum and technology-supported personal learning environments. *Open and distance education theory revisited: Implications for the digital era*, 75-84.

Blaschke, L. M., & Hase, S. (2016). Heutagogy: A holistic framework for creating 21st-century self-determined learners. In M. M. Kinshuk & B. Gros, (Eds.) *The future of ubiquitous learning: Learning designs for emerging pedagogies*, (pp. 25–40). Springer.

Blok, M., van Ingen, E., de Boer, A. H., & Slootman, M. (2020). The use of information and communication technologies by older people with cognitive impairments: From barriers to benefits. *Computers in Human Behavior*, *104*, 106173.

Brandes, D. & Ginnis, P., (1996). *A guide to student-centred learning*. Nelson Thornes.

Breckler, S. J. (1984). Empirical validation of affect, behaviour, and cognition as distinct components of attitude. *Journal of Personality and Social Psychology*, *47*(6), 1191–1205.

Bulmer, M. (2017). *Sociological research methods*. Routledge.

Bunaiyan, W. (2019). *Preparing the Saudi educational system to serve the 2030 Vision: A comparative analysis study.* [Doctoral dissertation]. University of Denver.

Burbules, N.C. & Callister Jr, T.A., (2000). *Watch IT: The risks and promises of information technologies for education*. Westview Press.

Burquel, N., & Busch, A. (2020). Lessons for international higher education post-COVID-19. *University World News*.

Butler, D. L. (2002). Individualizing instruction in self-regulated learning. *Theory into practice*, *41*(2), 81–92.

Cambridge Assessment International Education. (2018, November 20). *Digital literacy in Saudi schools is on the rise*. Cambridge Assessment International Education. Retrieved from

https://www.cambridgeinternational.org/news/news-details/view/digital-literacy-in-saudi-schools-is-on-the-rise-20nov2018/

Cavadel, E. W., Kauff, J. F., Person, A., & Kahn-Kravis, T. (2018). *New perspectives on practice: A guide to measuring self-regulation and goal-related outcomes in employment programs* (No. e3ed171bd2674ba281daece33ca39a94). Mathematica Policy Research.

Çelik, S., Arkın, E., & Sabriler, D. (2012). EFL learners' use of ICT for self-regulated learning. *Journal of Language and Linguistic Studies*, *8*(2), 98.

Cera, R., Mancini, M. F., & Antonietti, A. (2013). Relationships between metacognition, self-efficacy, and self-regulation in learning. *Educational, Cultural and Psychological Journal*, *7*(A), 114–141.

Chamorro, M. G., & Rey, L. (2013). Teachers' beliefs and the integration of technology in the EFL class. *HOW Journal*, *20*(1), 51–72.

Chinnery, G. M. (2006). Emerging technologies. Going to the mall: Mobile-assisted language learning. *Language Learning & Technology*, *10*(1), 9–16.

Choi, N. (2005). Self-efficacy and self-concept as predictors of college students' academic performance. *Psychology in the Schools*, *42*(2), 197–205.

CIA (2017). *CIA Fact Book*. CIA.

Cleary, P. D. (1997). Subjective and objective measures of health: Which is better when? *J Health Serv Res Policy, 2* (1).

Cochrane, T. D., (2014). Critical success factors for transforming pedagogy with mobile Web 2.0. *British Journal of Educational Technology*, *45*(1), 65–82.

Commins, D. (2005). *The Wahhabi mission and Saudi Arabia*. I.B. Tauris.

Cooper, A. S. (2011). *Oil Kings: How the US, Iran and Saudi Arabia changed the balance of power in the Middle East*. Simon and Schuster.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Sage Publications.

Creswell J. W. (2012). *Planning, conducting, and evaluating quantitative and qualitative research*. University of Nebraska Daulat Purnama.

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage Publications.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches.* Sage Publications.

Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist, 35*(2), 236–264*.*

Crystal, D. (2012). *English as a global language*. Cambridge University Press.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.

Denscombe, M. (2017). *EBOOK: The good research guide: For small-scale social research projects.* McGraw-Hill Education (UK).

Dinh, H. (2015). *Factors influencing English as a foreign language (EFL) teachers' use of information and communication technology (ICT) in classroom practice: A mixed methods study at Hanoi University* [Doctoral dissertation]. RMIT University.

Dörnyei, Z. (2003). Attitudes, orientations, and motivations in language learning: Advances in theory, research, and applications. In Z. Dörnyei (Ed.), *Attitudes, orientations, and motivations in language learning* (pp.3–32). Blackwell.

Dron, J., Anderson, T. (2016). The future of e-learning. In C.A. Haythornthwaite (Ed.), *The Sage handbook of e-learning research.* SAGE Reference.

Dweck, C. (2017)*. Mindset-updated edition: Changing the way you think to fulfil your potential*. Hachette.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.

Eberle, J. (2009). Heutagogy: What your mother didn't tell you about pedagogy and the conceptual age. *Proceedings of the European Conference on e-Learning* (pp.181–188).

Egel, I. P. (2009). Learner autonomy in the language classroom: From teacher dependency to learner independency. *Procedia-Social and Behavioral Sciences*, *1*(1), 2023–2026.

ELI (2020). *English Language Institute*. English Language Institute. Jeddah University. Retrieved January 20, 2019, from https://eli.uj.edu.sa/Default.aspx?Site_ID=974&lng=EN

Ellis, R. A., Ginns, P., & Piggott, L. (2009). E-learning in higher education: Some key aspects and their relationship to approaches to study. *Higher Education Research & Development*, *28*(3), 303–318.

Elyas, T., & Picard, M. (2010). Saudi Arabian educational history: Impacts on English language teaching. *Education, Business and Society: Contemporary Middle Eastern Issues*.

Elyas, T. & Picard, M. (2013). Critiquing of higher education policy in Saudi Arabia: Towards a new neoliberalism. *Education, business and society: Contemporary Middle Eastern issues*, *6*(1), 31–41.

Ezza, E. S., & Almudibry, K. (2018). ICT as an Index of Transparency in a Saudi EFL classroom. *TESOL International Journal*, *13*(1), 1-6.

Ezza, E. S. Y., & Bakry, S. A. (2014). Technology-enhanced instruction in a Saudi EFL classroom. *Arab World English Journal*, *Special Issue on CALL (1),* pp. 55-66.

Fandiño, F. G. E., Muñoz, L. D., & Velandia, A. J. S. (2019). Motivation and E-Learning English as a foreign language: A qualitative study. *Heliyon*, *5*(9), e02394.

Faridi, M. (2020, August 3). *The Study of EFL learners' perception of using e-learning and self-regulation in English classrooms: Teachers, intermediate and advanced learners' attitudes*. Research Square.

Farooq, M. U., & Javid, C. Z. (2012). Attitude of students towards E-learning: A study of English language learners at Taif University English Language Centre. *NUML Journal of Critical Inquiry*, *10*(2), 17–28.

Farooq, M. U., & Soomor, A. F. (2018). Teachers and technology: Trends in English language teaching in Saudi Arabia. *International Journal of English Linguistics*, *8*(5), 10–19.

Ferlazzo, L. (2020, August 19). *Blended learning in the age of COVID-19.* Education Week. Retrieved from https://www.edweek.org/teaching-learning/opinion-blended-learning-in-the-age-of-covid-19/2020/08

Fishbein, M., & Ajzen, I. (1973). Attitudes and opinions. *Annual Review of Psychology*, 24, 487–544.

Fitzpatrick, A. (2004). Teachers as agents of change: ICTs and a reconsideration of teacher expertise. In *Information and communication technologies in the teaching and learning of foreign languages: State-of-the-art, needs and perspectives* (pp.10–26). UNESCO Institute for Information Technologies in Education (IITE).

Fitzpatrick, A., & Davies, G. (Eds.) (2003). *The impact of information and communications technologies on the teaching of foreign languages and on the role of teachers of foreign languages.* EC Directorate General of Education and Culture.

Fleming, N. D., & Mills, C. (1992). Helping students understand how they learn. *The Teaching Professor*, *7*(4), 44-63.

Fletcher, G.H. (2004). Integrating technology throughout education. *THE Journal (Technological Horizons in Education)*, *32*(3), 4.

Forcheri, P., & Molfino, M. T. (2000). ICT as a tool for learning to learn. In *Communications and networking in education* (pp.175–184). Springer.

Fransson, G., Lindberg, O. J., & Olofsson, A. D. (2018). From a student perspective, what constitutes a good (or less good) use of ICT in teaching? *Education and Information Technologies*, *23*(5), 2155–2177.

Freire, P. (2020). Pedagogy of the oppressed. In *Toward a Sociology of Education* (pp. 374-386). Routledge.

Gamlo, N. H. (2014). *EFL teachers use/non-use of ICT at a university in Saudi Arabia* [Doctoral dissertation]. University of Warwick.

Gardner, H. (1985). *Frames of mind: The theory of multiple intelligences*. Paladin.

Gardner, H. (2010). *Multiple intelligences*. Sage.

Garrison, D. R. (2016). *E-learning in the 21st century: A community of inquiry framework for research and practice.* Taylor & Francis.

Gash, H. (2015). Knowledge construction: A paradigm shift. *New Directions for Teaching and Learning*, *2015*(143), 5–23.

Gaskill, P. J., & Hoy, A. W. (2002). Self-efficacy and self-regulated learning: The dynamic duo in school performance. In Aronson & D. Cordova (Eds.), *Improving education: Classic and contemporary lessons from psychology* (pp.183-206). New York: Academic Press.

Ghavifekr, S., Kunjappan, T., Ramasamy, L., & Anthony, A. (2016). Teaching and learning with ICT Tools: Issues and challenges from teachers' perceptions. *Malaysian Online Journal of Educational Technology*, *4*(2), 38–57.

Gilgen, R. (2005). Holding the world in your hand: Creating a mobile language learning environment. *EDUCASE Quarterly*, *28*(3), 30-39.

Giroux, H. (2020). *Critical pedagogy*. Springer Fachmedien Wiesbaden.

Glasow, P. A. (2005). *Fundamentals of survey research methodology.* Washington: Mitre.

Glassner, A., & Back, S. (2020). Three "gogies": Pedagogy, andragogy, heutagogy. In *Exploring Heutagogy in Higher Education* (pp.59–74). Springer.

Gliner, J. A., Morgan, G. A., & Leech, N. L. (2011). *Research methods in applied settings: An integrated approach to design and analysis.* Routledge.

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L. & Freynik, S. (2014). Technologies for foreign language learning: A review of technology types and their effectiveness. *Computer Assisted Language Learning*, *27*(1), 70–105.

Grix, J. (2002). Introducing students to the generic terminology of social research. *Politics*, *22*(3), 175–186.

Guzmán, D. B. (2019). Technology integration for the professional development of English. *Tecné, Episteme y Didaxis: TED* (46), 157–168.

Hakim, B. (2021). Role of ICT in the process of EFL teaching and learning in an Arab context. *Humanities and Social Sciences Letters*, *9*(1), 58-71.

Halabi, N. (2018). *Exploring learner autonomy in a Saudi Arabian EFL context* [Doctoral dissertation]. University of York.

Halupa, C. M. (2015). Pedagogy, andragogy, and heutagogy. In *Transformative curriculum design in Health Sciences Education, I*GI Global, 143-158.

Hamilton, M. (2013). *Autonomy and foreign language learning in a virtual learning environment.* Bloomsbury Academic Publishing.

Hammond, M., & Gamlo, N. (2015). How and why do language teachers use ICT in a University in Saudi Arabia. Proceedings of Global Learn, 2015 Global Conference on Leaning and Technology (pp. 248-2257), Germany: Berlin.

Harris, K. R., & Graham, S. (1999). Programmatic intervention research: Illustrations from the evolution of self-regulated strategy development. *Learning Disability Quarterly*, *22*(4), 251–262.

Hase, S., & Kenyon, C. (2000). From andragogy to heutagogy. *Ulti-BASE In-Site*. Retrieved from http://ultibase.rmit.edu.au/Articles/dec00/hase2.htm

Hase, S., & Kenyon, C. (Eds.). (2013). *Self-determined learning: Heutagogy in action*. A&C Black.

Hashmi, N. A. (2016). Computer-assisted language learning (CALL) in the EFL classroom and its impact on effective teaching-learning process in Saudi Arabia. *International Journal of Applied Linguistics and English Literature*, *5*(2), 202–206.

Hashmi, U. M., Rajab, H., & Shah, S. R. A. (2021). ELT during lockdown: A new frontier in online learning in the Saudi Context. *International Journal of English Linguistics*, *11*(1), 44-53.

Hassanzadeh, V., Gholami, R., Allahyar, N., & Noordin, N. (2012). Motivation and personality traits of TESL postgraduate students towards the use of information and communications technology (ICT) in second language teaching. *English Language Teaching*, *5*(4), 74–86.

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge.

Hayati, A. & Mohmedi, F. (2011). The effect of films with and without subtitles on listening comprehension of EFL Learners. *British Journal of Educational Technology*, *42*(1), 181–192.

Helfferich, C. (2011). *The quality of qualitative data. Manual for performing qualitative interviews.* Verlag für Sozialwissenschaften.

Hermes, M., & King, K. A. (2013). Ojibwe language revitalization, multimedia technology, and family language learning. *Language Learning & Technology, 17*(1), 125–144.

Hodges, C. B. (2008). Self-efficacy in the context of online learning environments: A review of the literature and directions for research. *Performance Improvement Quarterly*, *20*(3–4), 7–25.

Hoppe, H., Joiner, R., Milrad, M., & Sharples, M. (2003). Guest editorial: Wireless and mobile technologies in education. *Journal of computer assisted Learning*, *19*(3), 255–259.

Hourani, A. (2005). *A History of the Arab Peoples* (New Ed edition). London: Faber and Faber.

Hrastinski, S. (2008). What is online learner participation? A literature review. *Computers & Education*, *51*(4), 1755–1765.

Hsieh, H. C., & Hsieh, H. L. (2019). Undergraduates' out-of-class learning: Exploring EFL students' autonomous learning behaviors and their usage of resources. *Education Sciences*, *9*(3), 159.

Instefjord, E. J., & Munthe, E. (2017). Educating digitally competent teachers: A study of integration of professional digital competence in teacher education. *Teaching and Teacher Education*, *67*, 37–45.

Isiyaku, D. D., Ayub, M. A. F., & Abdulkadir, S. (2018). Antecedents to teachers' perceptions of the usefulness of ICTs for business education classroom instructions in Nigerian tertiary institutions. *Asia Pacific Education Review*, *19*(3), 337–352.

Ja'ashan, M. M. N. H. (2020). The Challenges and prospects of using e-learning among EFL students in Bisha University. *Arab World English Journal (AWEJ)*, *11*(1 March).

Januszewski, A. & Molenda, M. (Eds.) (2013). *Educational technology: A definition with commentary*. Routledge.

Januszewski, A. & Molenda, M. (2008). *Educational Technology: A Definition with Commentary*. Routledge.

Jensen, B., Wallace, T. L., Steinberg, M. P., Gabriel, R. E., Dietiker, L., Davis, D. S., & Rui, N. (2019). Complexity and scale in teaching effectiveness research: Reflections from the MET Study. *Education Policy Analysis Archives*, *27*, 7–7.

Johnson, A. M., Jacovina, M. E., Russell, D. E., & Soto, C. M. (2016). Challenges and solutions when using technologies in the classroom. In S. A. Crossley & D. S. McNamara (Eds.) *Adaptive educational technologies for literacy instruction* (pp.13–29). Taylor & Francis.

Jonassen, D .H）.Ed（. (2004). *Handbook of research on educational communications and technology.* Taylor & Francis.

Jung, H. J. (2016). Factors impacting learners' satisfaction and continued use of e-learning in an EFL context. *Multimedia-Assisted Language Learning*, *19*(2), 11–33.

Jung, S. H. (2006). *The use of ICT in learning English as an international language* [Doctoral dissertation].

Karasik, T. (2015, February 15). *There is good reason for the Saudi brain drain*. The National. Retrieved from https://www.thenationalnews.com/opinion/there-is-good-reason-for-the-saudi-brain-drain/

Karimuddin, K., Nasiruddin., Atmowardyo, H. & Rahman, M.A. (2015) EFL student's perception towards using mobile technology via Facebook for practicing English writing skills: A revolution of traditional to modern teaching, *Journal of Language and Literature*, *6*(1), 154–160.

Kassem, M. A. M. (2018). Balancing technology with pedagogy in English language classroom: Teachers' perspective. *International Journal of English Language Teaching*, *6*(9), 1–19.

Keengwe, J., & Kang, J. J. (2013). Preparing in-service language teachers to design and implement technology-rich curriculum. *Education and Information Technologies*, *18*(4), 609–619.

Keppell, M. (2014). Personalised learning strategies for higher education. In K.Fraser (Ed.), *The Future of Learning and Teaching in Next Generation Learning Spaces* (pp. 2-21). Bingley: Emerald.

Khalawi, A., & Halabi, M. (2020). An Inquiry into Saudi EFL teachers' and students' perceptions of EFL virtual classes and its relation to learner autonomy. *International Journal of English Language Education, 8(2),* 57.

Khan, A., Egbue, O., Palkie, B., & Madden, J. (2017). Active learning: Engaging students to maximize learning in an online course. *Electronic Journal of E-Learning*, *15*(2), 107–115.

Khan, I. A. (2011). Learning difficulties in English: Diagnosis and pedagogy in Saudi Arabia. *Educational Research*, *2*(7), 1248–1257.

Khan, S. (2014). A model for integrating ICT into teacher training programs in Bangladesh based on TPCK. *International Journal of Education and Development using ICT*, *10*(3).

Kim, H. K. (2008). Beyond motivation: ESL/EFL teachers' perceptions of the role of computers. *CALICO Journal, 25*(2), 241–259.

Kim, J. S. (2000). *Students' attitudes and perceptions toward technology.* Iowa State University.

Kingdom of Saudi Arabia (2016). *National Transformation Programme (NTP) 2020*. Retrieved June 16, 2017, from https://vision2030.gov.sa/sites/default/files/NTP_En.pdf

Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, *6*(5), 26–41.

Knowles, M. (1975). *Self-directed learning: A guide for learners and teachers*. Cambridge Adult Education.

Knowles, S. M. (1970). *The modern practice of adult education*. Association Press.

Knowles, S. M. (1980). *The modern practice of adult education*. Follett Publishing Company.

Koh, J. H. L. & Frick, T. (2009). Instructor and student classroom interactions during technology skills instruction for facilitating preservice teachers' computer self-efficacy. *Journal of Educational Computing Research, 40*(2), 211–228.

Kolb, D. A. (1984). The process of experiential learning. *Experiential learning: Experience as the source of learning and development*, 20–38.

Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication.* Routledge.

Kreutz, J., & Rhodin, N. (2016). *The influence of ICT on learners' motivation towards learning English.*

Kruss, G., McGrath, S., Petersen, I. H., & Gastrow, M. (2015). Higher education and economic development: The importance of building technological capabilities. *International Journal of Educational Development*, *43*, 22–31.

Lai, C. (2019). Technology and learner autonomy: An argument in favor of the nexus of formal and informal language learning. *Annual Review of Applied Linguistics*, *39*, 52–58.

Lai, C., & Gu, M. (2011). Self-regulated out-of-class language learning with technology. *Computer Assisted Language Learning*, *24*(4), 317–335.

Langevin, P., & Mendoza, C. (2014). Motivating managers' goal commitment: Participation, feedback, and trust. *Accounting Auditing Control*, *20*(3), 43–71.

Lau, F., & Kuziemsky, C. (2016). *Handbook of eHealth evaluation: An evidence-based approach.* University of Victoria, Victoria (BC).

Laudari, S., & Maher, D. (2019). Barriers to ICT use in EFL teacher education courses in Nepal: An activity theory perspective. *Journal of NELTA*, *24*(1–2), 77–94.

Laurillard, D. (2002). *Rethinking university teaching: A conversational framework for the effective use of learning technologies*. Routledge.

Laurillard, D. (2012). *Teaching as a design science: Building pedagogical patterns for learning and technology*. Routledge.

Layali, K., & Al-Shlowiy, A. (2020). Students' perceptions of e-learning for ESL/EFL in Saudi universities at time of Coronavirus: A literature review. *Indonesian EFL Journal*, *6*(2), 97–108.

Lee, K., Ardeshiri, M. & Cummins, J. (2016). A computer-assisted multiliteracies programme as an alternative approach to EFL instruction. *Technology, Pedagogy and Education,* *25*(5), 595–612.

Lee, K., Tsai, P.S., Chai, C.S. and Koh, J.H.L. (2014). Students' perceptions of self-directed learning and collaborative learning with and without technology. *Journal of Computer Assisted Learning,* *30*(5), 425–437.

Li, F., Qi, J., Wang, G., & Wang, X. (2014). Traditional classroom vs e-learning in higher education: Difference between students' behavioral engagement. *International Journal of Emerging Technologies in Learning*, *9*(2).

Li, G., & Ni, X. (2011). Primary EFL teachers' technology use in China: Patterns and perceptions. *RELC Journal*, *42*(1), 69–85.

Little, D. & Thorne, S. (2017). From learner autonomy to rewilding: A discussion. In M. Cappellini, T. Lewis, & A. Rivens Mompean (Eds). *Learner Autonomy and Web 2.0* (pp.12–35). Equinox.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American psychologist*, *57*(9), 705.

Locke, E. A., Latham, G. P., & Erez, M. (1988). The determinants of goal commitment. *Academy of Management Review*, *13*(1), 23–39.

Loewen, S., & Plonsky, L. (2015). *An A–Z of applied linguistics research methods.* Palgrave.

Lund, A., Furberg, A., Bakken, J., & Engelien, K. L. (2014). What does professional digital competence mean in teacher education? *Nordic Journal of Digital Literacy*, *9*(04), 280–298.

Mack, L. (2010). The philosophical underpinnings of educational research. *Polyglossia*,*19, 5-11.*

Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. *Issues in Educational Research*, *16*(2), 193–205.

Mahboob, A. & Elyas, T. (2014). English in the Kingdom of Saudi Arabia. *World Englishes*, *33*(1), 128–142.

Mahdum, M., Hadriana, H., & Safriyanti, M. (2019). Exploring teacher perceptions and motivations to ICT use in learning activities in Indonesia. *Journal of Information Technology Education: Research, 18,* 293-317.

Mahyoob, M. (2020). Challenges of e-learning during the COVID-19 pandemic experienced by EFL learners. *Arab World English Journal*, *11*(4), 1-24.

Marcal (2010). *The integration of culture into foreign language classrooms* [Doctoral dissertation].

Martin, D. P., & Rimm-Kaufman, S. E. (2015). Do student self-efficacy and teacher-student interaction quality contribute to emotional and social engagement in fifth grade math? *Journal of School Psychology*, *53*(5), 359–373.

Marzano, R. J., Pickering, D., Arredondo, D. E., Blackburn, G. J., Brandt, R. S., & Moffett, C. A. (1992). *Dimensions of learning*. Association for Supervision and Curriculum Development.

Mason, S. (2013). Qualitative versus quantitative approaches. In F. R. Volkmar & F. R. Volkmar (Eds.), *Encyclopedia of autism spectrum disorders*. Springer.

Mathew, N. G., & Alidmat, A. O. H. (2013). A Study on the usefulness of audio-visual aids in the EFL classroom: Implications for effective instruction. *International Journal of Higher Education*, *2*(2), 86–92.

Mathew, N. G., Sreehari, P., & Al-Rubaat, A. M. (2019). Challenges and implications of virtual e-learning platform in EFL context: Perceptions of teachers. *International Journal of English Language Teaching*, *7*(2), 100-116.

Mayer, R.E. (Ed.) (2005). *The Cambridge handbook of multimedia learning*. Cambridge University Press.

McLeod, S. (2007). *Jean Piaget's theory of cognitive development*. Simply Psychology.

Meerza, A. H., & Beauchamp, G. (2017). Factors influencing attitudes towards information and communication technology (ICT) amongst undergraduates: An empirical study conducted in Kuwait higher education institutions (KHEIs). TOJET, 16(2).

Melor, M. Y., Maimun A. L., Chua P. L., & Rizauddin, R. (2010). Evaluation of ICT usage for general or English learning purposes. *Selected topics in Education and Educational Technology.* Universiti Kebangsaan Malaysia.

Mirete, A. B., Maquilón, J. J., Mirete, L., & Rodríguez, R. A. (2020). Digital competence and university teachers' conceptions about teaching. A structural causal model. *Sustainability*, *12*(12), 4842.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, *108*(6), 1017–1054.

Mohsen, M. A., & Shafeeq, C. P. (2014). EFL teachers' perceptions on Blackboard applications, *English Language Teaching*, *7*(11), 108–118.

Moreira-Fontán, E., García-Señorán, M., Conde-Rodríguez, Á., & González, A. (2019). Teachers' ICT-related self-efficacy, job resources, and positive emotions: Their structural relations with autonomous motivation and work engagement. *Computers & Education*, *134*, 63–77.

Moshashai, D., & Bazoobandi, S. (2020, February 21). *The complexities of education reform in Saudi Arabia.* Gulf Monitor: Castlereagh Associates. Retrieved from https://castlereagh.net/the-complexities-of-education-reform-in-saudi-arabia/?pdf=48716

Motteram, G. (2013). *Innovations in learning technologies for English language teaching*. British Council.

Murcia, M. C. (2001). *Teaching English as a second or foreign language*. (3rd ed.). Heinle & Heinle Publishers.

Mutambik, I. (2018). The role of e-learning in studying English as a foreign language in Saudi Arabia: Students' and teachers' perspectives. *English Language Teaching*, *11*(5), 74-83.

Nassuora, A. B. (2012). Students' acceptance of mobile learning for higher education in Saudi Arabia. *American Academic & Scholarly Research Journal*, *4*(2), 24–30.

National Education Association – American Federation of Teachers (NEA – AFT). (2008). *Access, adequacy, and equity in education technology: Results of a survey of America's teachers and support professionals on technology in public schools and classrooms.* NEA. Retrieved from https://www.edutopia.org/pdfs/NEA

Niblock, T. (Ed.) (2015). *State, society and economy in Saudi Arabia*. Routledge.

Nickerson, R. S. & Zodhiates, P. P. (Eds.) (2013). *Technology in education: Looking toward 2020.* Routledge.

Nunan, D. (1999). *Second language teaching & learning*. Heinle & Heinle Publishers, 2625 Empire Dr., Florence, KY 41042-2978.

O'Toole, R. (2020). The *extended classroom*. Retrieved July 20, 2021, from https://www.inspireslearning.com/journal/the-extended-classroom/

Oraif, I., & Elyas, T. (2021). The Impact of COVID-19 on learning: Investigating EFL learners' engagement in online courses in Saudi Arabia. *Education Sciences*, *11*(3), 99.

Ostrom, T. M. (1969). The relationship between the affective, behavioral, and cognitive components of attitude. *Journal of experimental social psychology*, *5*(1), 12-30.

Paige, R. M., Jorstad, H. L., Siaya, L., Klein, F., Colby, J., Lange, D., & Paige, R. (2003). Culture learning in language education. *Culture as the core: Perspectives on culture in second language learning* (pp. 173–236). USA: Information Age Publishing.

Panadero, E., Jonsson, A., & Botella, J. (2017). Effects of self-assessment on self-regulated learning and self-efficacy: Four meta-analyses. *Educational Research Review*, *22*, 74–98.

Paneru, D. R. (2018). Information communication technologies in teaching English as a foreign language: Analysing EFL teachers' TPACK in Czech elementary schools. *CEPS Journal*, *8*(3), 141–163.

Paris, S. G., & Paris, A. H. (2001). Classroom applications of research on self-regulated learning. *Educational Psychologist*, *36*(2), 89–101.

Park, C. N., & Son, J-B. (2009). Implementing computer assisted language learning in the EFL classroom: Teachers' perceptions and perspectives. *International Journal of Pedagogies & Learning*, *5*(2), 80–101.

Patel-Junankar, D. (2018). Learner-centred pedagogy: Teaching and learning in the 21st century. In G. Kayingo & V. M. Hass (Eds.), (pp. 3-12). Springer Publishing Company.

Pearman, C. J., & Chang, C. W. (2010). Scaffolding or distracting: CD-ROM storybooks and young readers. *TechTrends, 54*(4), 52.

Pellerin, M. (2017). Rethinking the concept of learner autonomy within the MALL environment. In M. Cappellini, T. Lewis, & A. Rivens Mompean, A. (Eds). *Learner Autonomy and Web 2.0* (pp.91–114). Equinox.

Picard, M. (2018). The future of EFL and TESOL in Saudi Arabia. In Moskovsky, C. & Picard, M. (Eds.), *English as a foreign language in Saudi Arabia: New Insights into Teaching and Learning English*. London, England: Routledge.

Pickens, J. (2005). Attitudes and perceptions. *Organizational behaviour in health care,* 4(7), 43-76.

Pilar, R. A., Jorge, A. & Cristina, C. (2013). The use of current mobile learning applications in EFL. *Procedia-Social and Behavioral Sciences, 103*, 1189–1196

Profanter, A. (2014). Achievements and challenges in the educational realm in Saudi Arabia. *European Scientific Journal, ESJ, 10*(10).

Prokop, M. (2003). Saudi Arabia: The politics of education. *International Affairs*, *79*(1), 77–89.

Quamar, M. M. (2016). Saudi Arabia's Quest for knowledge and efforts for educational reforms: Achievements and fault lines. *Journal of South Asian and Middle Eastern Studies*, *39*(2), 7–28.

Rahimi, A., & Bigdeli, R. A. (2014). ICT and EFL students' self-regulation mastery: Educational meat or poison. *AsiaCALL Online Journal (ISSN 1936-9859)*.

Ramchandran, S. (2004). Integrating new technologies into language teaching: Two activities for EAP classroom. *TESL Canada Journal, 22*(1), 79-90.

Rao, A. (2012, March 1). *10 Educational Technology Quotes*. Retrieved from https://teachbytes.com/

Rashid, S. (2018). The effect of training in mobile assisted language learning on attitude, beliefs and practices of tertiary students in Pakistan [Doctoral dissertation]. University of Canterbury.

Redecker, C. (2013). *The use of ICT for the assessment of key competencies*. Joint Research Centre of the European Commission Scientific and Policy Report.

Rekkedal, T., Qvist-Eriksen, S., Keegan, D., Súilleabháin, G. Ó., Coughlan, R., & Fritsch, H. (2003). *Internet-based e-learning, pedagogy and support systems*. NKI Distance Education.

Robertson, M., & Al-Zahrani, A. (2012). Self-efficacy and ICT integration into initial teacher education in Saudi Arabia: Matching policy with practice. *Australasian Journal of Educational Technology*, *28*(7), 1136-1151.

Rodrigues, H., Almeida, F., Figueiredo, V., & Lopes, S. L. (2019). Tracking e-learning through published papers: A systematic review. *Computers & Education*, *136*, 87–98.

Romeo, K. & Hubbard, P. (2010). Pervasive CALL Learner Training for Improving Listening Proficiency. In M. Levy, F. Blin, C. B. Siskin, & O. Takeuchi (Eds.). *WorldCALL: International perspectives on computer-assisted learning,* (pp. 215-229). New York: Routledge.

Rose, D. H., Meyer, A., & Hitchcock, C. (2005). *The universally designed classroom: Accessible curriculum and digital technologies.* Harvard Education Press. 8 Story Street First Floor, Cambridge, MA 02138.

Sabti, A. A., & Chaichan, R. S. (2014). Saudi high school students' attitudes and barriers toward the use of computer technologies in learning English. *SpringerPlus*, *3*(1), 1–8.

Şahin Kızıl, A. (2017). EFL learners in the digital age: An investigation into personal and educational digital engagement. *RELC Journal*, *48*(3), 373–388.

Sale, J. E., Lohfeld, L. H., & Brazil, K. (2002). Revisiting the quantitative-qualitative debate: Implications for mixed-methods research. *Quality and Quantity*, *36*(1), 43–53.

Sánchez-García, A. B., Marcos, J. J. M., Guan Lin, H., & Escribano, J. P. (2013). Teacher development and ICT: The effectiveness of a training program for in-service school teachers. *Procedia-Social and Behavioral Sciences*, *92*, 529–534.

Sandi-Urena, S., Cooper, M. M., & Stevens, R. H. (2011). Enhancement of metacognition use and awareness by means of a collaborative intervention. *International Journal of Science Education*, *33*(3), 323–340.

Sang, G., Valcke, M., Van Braak, J. & Tondeur, J. (2010). Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviors with educational technology. *Computers & Education*, *54*(1), 103–112.

Sangrà, A., Vlachopoulos, D., & Cabrera, N. (2012). Building an inclusive definition of e-learning: An approach to the conceptual framework. *International Review of Research in Open and Distributed Learning*, *13*(2), 145–159.

Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students*. Pearson education.

Scherer, R., & Siddiq, F. (2015). Revisiting teachers' computer self-efficacy: A differentiated view on gender differences. *Computers in Human Behavior*, *53*, 48–57.

Schön, D., & Argyris, C. (1996). *Organizational learning II: Theory, method and practice*. Addison Wesley.

Schraw, G., Crippen, K. J., & Hartley, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. *Research in science education*, *36*(1), 111–139.

Schunk, D. H. (1996). Goal and self-evaluative influences during children's cognitive skill learning. *American Educational Research Journal*, *33*(2), 359–382.

Schwab, K. (2019). *The global competitiveness report.* World Economic Forum.

Sept, J. (2004). *The Stone Age in the Information Age* (1st ed.). Indiana University Press.

Shadiev, R., & Yang, M. (2020). Review of studies on technology-enhanced language learning and teaching. *Sustainability*, *12*(2), 524.

Silviyanti, T. M., & Yusuf, Y. Q. (2015). EFL Teachers' perceptions on using ICT in their teaching: To use or to reject? *Teaching English with Technology*, *15*(4), 29–43.

Smith, L. & Abouammoh, A. (2013). Higher education in Saudi Arabia: Reforms, challenges and priorities. In *Higher Education in Saudi Arabia* (pp.1–12). Springer.

Solak, E., & Cakir, R. (2015). Exploring the effect of materials designed with augmented reality on language learners' vocabulary learning. *Journal of Educators Online*, *12*(2), 50–72.

Soliman, N. A. (2014). Using e-learning to develop EFL students' language skills and activate their independent learning. *Creative Education* 5(10).

Solís, M. (2009). Graduates' degree of satisfaction with the MA program in teaching English as foreign language at the University of Costa Rica. *Revista de Lenguas Modernas.*

Spector, J. M. (2015). *Foundations of educational technology: Integrative approaches and interdisciplinary perspectives*. Routledge.

Spector, J.M., Merrill, M.D., Elen, J. & Bishop, M.J. (Eds.) (2014). *Handbook of research on educational communications and technology*. Springer.

Squire, K. (2011). *Video games and learning: Teaching and participatory culture in the digital age. Technology, education, connections (the TEC Series).* Teachers College Press.

Stanton, J. D., Neider, X. N., Gallegos, I. J., & Clark, N. C. (2015). Differences in metacognitive regulation in introductory biology students: When prompts are not enough. *CBE—Life Sciences Education*, *14*(2), ar15.

Sue, V. M., & Ritter, L. A. (2012). *Conducting online surveys*. Sage publications.

Taha, M. (2014). *Investigating the success of E-learning in secondary schools: The case of the Kingdom of Bahrain* [Doctoral dissertation]. Brunel University.

Taipale, J. (2016). Self-regulation and beyond: Affect regulation and the infant–caregiver dyad. *Frontiers in Psychology*, *7*, 889.

Tanveer, M. (2011). Integrating e-learning in classroom-based language teaching: Perceptions, challenges and strategies. *International Conference ICT for Language Learning* (pp.23–28).

Tayan, B. M. (2017). The Saudi Tatweer education reforms: Implications of Neoliberal thought to Saudi education policy. *International Education Studies*, *10*(5), 61–71.

Taylor, D. C., & Hamdy, H. (2013). Adult learning theories: Implications for learning and teaching in medical education: AMEE Guide No. 83. *Medical Teacher*, *35*(11), e1561–e1572.

Teräs, M., Suoranta, J., Teräs, H., & Curcher, M. (2020). Post-Covid-19 education and education technology 'solutionism': A seller's market. *Postdigital Science and Education*, *2*(3), 863–878.

Tess, P. A. (2013). The Role of social media in higher education classes (real and virtual)–A literature review. *Computers in Human Behavior,* *29*(5), 60–68.

Tondeur, J., van Braak, J., Ertmer, P. A. & Ottenbreit-Leftwich, A. (2017). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: A systematic review of qualitative evidence. *Educational technology research and development*, 65, 555-575.

Tri, D. H., & Nguyen, N. H. T. (2014). An exploratory study of ICT use in English language learning among EFL university students. *Teaching English with Technology*, *14*(4), 32–46.

UNESCO (2010). *ICT transforming education: A regional guide*. Asia and Pacific Regional Bureau for Education.

UNESCO. (2020) *The Saudi Ministry of Education leading efforts to combat coronavirus pandemic.* Retrieved from https://iite.unesco.org/wp-content/uploads/2020/10/The-Saudi-MOE-Leading-Efforts-to-Combat-Coronavirus-Pandemic-COVID-19.pdf

 UNESCO (2021). *Information and communication technology (ICT) in education (Brief 4).* Retrieved from https://learningportal.iiep.unesco.org/en/issue-briefs/improve-learning/curriculum-and-materials/information-and-communication-technology-ict

Usher, R., & Bryant, I. (1989). *The Captive Triangle: Adult Education as Theory, Practice and Research.* London: Routledge.

Valverde-Berrocoso, J., Garrido-Arroyo, M. D. C., Burgos-Videla, C., & Morales-Cevallos, M. B. (2020). Trends in educational research about e-learning: A systematic literature review (2009–2018). *Sustainability*, *12*(12), 5153.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425–478.

Vigdor, J.L., Ladd, H.F. & Martinez, E. (2014). Scaling the digital divide: Home computer technology and student achievement. *Economic Inquiry, 52*(3), 1103–1119.

Vision 2030. (2016). *Vision 2030.* Saudi Vision 2030. Retrieved from http://vision2030.gov.sa/sites/default/files/report/Saudi_Vision2030_EN_0.pdf

Walliman, N. (2017). *Qualitative Data Analysis. In Research Methods* (pp. 148-166). Routledge.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1990). What influences learning? A content analysis of review literature. *The Journal of Educational Research*, *84*(1), 30–43.

Warwick, P., Mercer, N., Kershner, R., & Staarman, J. K. (2010). In the mind and in the technology: The vicarious presence of the teacher in pupil's learning of science in collaborative group activity at the interactive whiteboard. *Computers & Education*, *55*(1), 350–362.

Weimer, M. (2002). *Learner-centred teaching: Five key changes to practice.* John Wiley & Sons.

West, D.M. (2013). *Mobile learning: Transforming education, engaging students, and improving outcomes.* Brookings Policy Report (pp.1–7).

Wiangsima, A., & Boonmoh, A. (2018). Teachers' perceptions for teaching English in the near future. *Journal of Liberal Arts, Ubon Ratchathani University*,*14*(2), 270–310.

Winke, P., & Goertler, S. (2008). Did we forget someone? Students' computer access and literacy for CALL. *Calico Journal, 25*(3), 482–509.

Wood, J. V. (1989). Theory and research concerning social comparisons of personal attributes. *Psychological Bulletin*, *106*(2), 231.

Wu, W. C. V., Yen, L. L., & Marek, M. (2011). Using online EFL interaction to increase confidence, motivation, and ability. *Journal of Educational Technology & Society*, *14*(3), 118–129.

Yee, C. M., & Khin, E. W. S. (2010). Positivist research and its influence in management accounting research. *Asian Journal of Accounting Perspectives*, *3(*1), 38–45.

Zembylas, M. (2018). Reinventing critical pedagogy as decolonizing pedagogy: The education of empathy. *Review of Education, Pedagogy, and Cultural Studies, 40*(5), 404-421.

Zimmerman, B. J., Bonner, S., & Kovach, R. (1996). *Developing self-regulated learners: Beyond achievement to self-efficacy*. American Psychological Association.

Zitouni, M., Al-Traif, H., Zemni, B., Mohammed, O. S., & Aljasser, M. (2021). Utilization of YouTube to improve the pronunciation skill of Saudi learners in translation departments. *Asian ESP Journal*, *17*(2), 133-154.

Žukauskas, P., Vveinhardt, J., & Andriukaitienė, R. (2018). Philosophy and paradigm of scientific research. *Management culture and corporate social responsibility*, *121, 139.*

Žuvic-Butorac, M., Roncevic, N., Nemcanin, D., & Nebic, Z. (2011). Blended e-learning in higher education: Research on students' perspective. *Issues in Informing Science & Information Technology*, *8*, 409-429.

Appendices

Appendix A: Participant Information Sheet

Brunel University London

PARTICIPANT INFORMATION SHEET

E-EFL IN THE SAUDI TERTIARY CLASSROOM: EXPLORING EFL TEACHERS' PEDAGOGY AND LEARNERS' HEUTAGOGIC SELF-EFFICACY IN KSA

Invitation:

My name is Sahar Alnofaie, a PhD research from Brunel University. I would like to invite you to take part in my research project. Before you decide you need to understand why the research is being done and what it will involve for you. Please take the time to read the following information carefully and ask questions about anything you do not understand. Talk to others about the study if you wish. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of the study?

This research project aims to explore the way in which the integration of digital technologies in the Saudi EFL classroom have impacted, if at all, on student-centered and learner-oriented pedagogies.

Why have I been invited to participate?

You have been invited to take part in this study because the participants in my investigation should Saudi female students aged ranging from 18 to 21 years of age and teachers from various cultural backgrounds and experiences. I want to explore the application of digital technologies in EFL classrooms in Saudi Arabia, with a particular focus on whether or not the use of this technology has assisted in promoting learner-oriented methods of pedagogy.

Do I have to take part?

No. It is entirely up to you to decide whether or not you want to take part. If you decide to take part, you will be given this information sheet to keep. You will also be asked to sign a 'consent form'. If you decide to take part, you are still free to stop at any time without giving a reason. No questions will be asked if you stop.

You can request for your data to be withdrawn until publication of the data without giving a reason and without prejudice. Anonymous data already collected will be used {because we cannot trace the latter information back to you}. No further data would be collected or any other research procedures would be carried out on or in relation to you.

What will happen to me if I take part?

You will be asked to complete a questionnaire which we estimate will take you 15 minutes. You may also wish to agree to a follow-up interview. During the follow-up interview the researcher will ask questions related to the survey questions. She will record the conversation using an audio tape recorder. The purpose of the recording is to allow the researcher to capture all the information discussed during the interview, which is important for them to analyse later. The interview will take about 30 minutes.

What do I have to do?

Please answer the questions in the questionnaire. There are no other commitments associated with participating.

What are the possible disadvantages and risks of taking part?

Participating in the research is not anticipated to cause you any disadvantages or discomfort.

What if something goes wrong?

If you have any complaints about the project in the first instance you can contact the Chair of the College of Business, Arts, and Social Sciences (CBASS) Research Ethics Committee (REC), Professor David Gallear. His e-mail is: david.gallear@brunel.ac.uk

Will my taking part in this study be kept confidential?

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified or identifiable in any reports or publications. Your institution will also not be identified or identifiable. Any data collected about you in the online questionnaire will be stored online in a form protected by passwords and other relevant security processes and technologies.

Data collected may be shared in an anonymised form to allow reuse by the research team and other third parties. These anonymised data will not allow any individuals or their institutions to be identified or identifiable.

What will happen to the results of the research study?

The results of the research will be published in my dissertation. You will not be identified in any report or publication. Your institution will not be identified in any report or publication. If you wish to be given a copy of any reports resulting from the research, please ask me to put you on my circulation list.

Who is organising and funding the research?

This study is self-funded by the researcher Sahar Alnofaie, A PhD student in Education at Brunel University.

Who has reviewed the study?

The College of Business Arts and Social Sciences research ethics committee has reviewed my study.

Include a passage on the University's commitment to the UK Concordat on Research Integrity:

Brunel University is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from our researchers during the course of their research.

Contact for further information and complaints

Researcher:

Sahar Alnofaie

Email: sahar.alnofaie@brunel.ac.uk

Researcher's supervisor:

Professor Mike Watts

Email: Mike.Watts@brunel.ac.uk

Contact for complaints and questions about the conduct of this research:

The Chair of the CBASS REC:
Professor: David Gallears

Email: Cbass-ethics@brunel.ac.uk

Thank you for taking part in this research.

Appendix B: Consent Page

Brunel University London

<div style="text-align:center">**CONSENT FORM**</div>

The participant should complete the whole of this sheet

Please tick the appropriate box

	YES	NO
Have you read the Research Participant Information Sheet?	☐	☐
Have you had an opportunity to ask questions and discuss this study?	☐	☐
Have you received satisfactory answers to all your questions?	☐	☐
Who have you spoken to?		
Do you understand that you will not be referred to by name in any report concerning the study?	☐	☐
Do you understand that you are free to withdraw from the study:		
• at any time?	☐	☐
• without having to give a reason for withdrawing?	☐	☐
• without affecting your grades?	☐	☐
I agree to my interview being recorded.	☐	☐
I agree to the use of non-attributable direct quotes when the study is written up or published.	☐	☐
Do you agree to take part in this study?	☐	☐

Signature of Research Participant:

Date:

Name in capitals:

Researcher name:	**Signature:**
Supervisor name:	**Signature:**

Appendix C: Teachers' Questionnaire

TEACHERS' QUESTIONNAIRE

SECTION 1: TEACHER BACKGROUND AND DEMOGRAPGHIC DETAILS

Tick (✓) the applicable box for each of the questions below:

1. Age

□ Below 25

□ 26-30

□ 31-40

□ Above 40

2. Gender

□ Male

□ Female

3. Nationality

□ Saudi

□ Non-Saudi

4. Branch

□ Al-Salamah

□ Al-Faislaliah

□ Khulais

□ Al-Kamil

5. Highest Academic Qualification

□ Master's

□ MPhil

□ PhD

□ Post doctorate

6. Teaching qualification

□ TESOL/EFL teaching Certificate/Diploma

□ Teacher training Certificate/Diploma

□ Others, please specify--------------------------------

7. Teaching Experience

□ Less than 5 years

□ 5-10 years

□ 11-15 years

□ 16-20 years

□ More than 20 years

8. Types of ICT used in EFL classroom at university (Tick all that apply)

□ PowerPoint   □ Email

□ Blog   □ Virtual Learning Environment

□ Educational CD/VCD   □ Smart board

□ Online quiz

□ Giving task/discussing materials using smartphone (WhatsApp, Facebook, Twitter)

□ Others, please specify--------------------------------

9. Have you attended any trainings or workshops about ICT use?

□ Yes

□ No

Please name a few of these trainings attended (if any):

SECTION 2: TEACHER PERCEPTIONS OF AND MOTIVATION TOWARDS ICT USE IN E-EFL CLASSROOM

Please tick (√) the extent to which you feel that best fits for the following statements.

SD = Strongly Disagree   **A = Agree**

D = Disagree   **SA = Strongly Agree**

No.	Statement	Response			
		SD	**D**	**A**	**SA**
	PERCEPTION **Perceived usefulness of ICT**				
1	The use of ICT in the EFL classroom can make learning process more effective				
2	The use of ICT in the EFL classroom can increase students' motivation				
3	The use of ICT in the EFL classroom can foster positive attitudes of students towards learning				
4	The use of ICT in the EFL classroom can make learning activities more interesting and enjoyable				
5	The use of ICT in the EFL classroom will enable students to become active students				
6	The use of ICT in the EFL classroom can create various learning activities				
7	The use of ICT in the EFL classroom can make the students have a better				

	understanding of how technology affects their lives				
8	I do not feel that the use of ICT in the EFL classroom has benefitted me as a teacher				
9	The use of ICT in the EFL classroom is as important as the use of textbooks for students				
10	The use of ICT in the EFL classroom can improve my teaching performance				
11	I do not feel that the use of ICT in the EFL classroom can help me learn new skills				
	Perceived ease of use of ICT				
12	The use of ICT in learning activities in the EFL classroom is quite easy and is not troublesome				
13	The use of ICT in the EFL classroom makes the provision of access to learning resources convenient				
14	The use of ICT in the EFL classroom makes it easy for teachers to explain the concept studied in the lesson				
15	The use of ICT in the EFL classroom provides convenience in monitoring students' learning progress				

16	The use of ICT in the EFL classroom makes it convenient to control the students' activities				
17	The use of ICT in the EFL classroom makes it convenient to assess the students' progress				
18	The use of ICT in the EFL classroom makes it convenient to store teachers' and students' documents.				
19	The use of ICT in the EFL classroom has caused a lot of technical problems				
20	The use of ICT in the EFL classroom provides convenience in communication				
	MOTIVATION **Educational Benefit**				
21	The use of ICT in the EFL classroom can facilitate student-centered learning				
22	The use of ICT in the EFL classroom can prepare students for their future careers				
23	The use of ICT in the EFL classroom provides an opportunity to improve the quality of my teaching				

24	The use of ICT in the EFL classroom can improve students' understanding				
25	The use of ICT in the EFL classroom provides an opportunity to follow the latest information				
26	The use of ICTs in the EFL classroom can provide opportunities to study new things				
	Impact on teaching				
27	The use of ICT in the EFL classroom can contribute to making students work more actively and problem-based				
28	The use of ICT in the EFL classroom can inspire and help students express themselves				
29	The use of ICT in the EFL classroom can improve the quality of student learning				
30	The use of ICT in the EFL classroom can make learning more meaningful				
31	The use of ICT in the EFL classroom can develop teacher's pedagogical abilities				
32	The use of ICT in the EFL classroom can increase self-confidence				
	Self-efficacy				

33	I believe in my ability and knowledge to use ICT in learning activities in the EFL classroom.				
34	I like to use ICT in my learning activities in the EFL classroom because I am certain that I can get good results and benefits				
35	I am able to search, evaluate and choose ICT devices that are appropriate to support my learning activities in the EFL classroom				
36	I have certain strategies to solve problems and obstacles with the use of ICT in the EFL classroom				
37	I am sure that I can continue to integrate ICT in my learning activities in the EFL classroom in the future				
	Trainings attended				
38	The training held by the university made me motivated to use ICT in learning activities in the EFL classroom				
39	I need more trainings on how to use ICT in learning activities in the EFL classroom				
40	All teachers and prospective teachers must attend trainings on the use of ICT in the EFL classroom				

SECTION 3: GENERAL QUESTIONS

1. Do you face obstacles when using ICT in teaching and learning activities in the EFL classroom? Yes/No

    List a few (if any)

2. Do you cope with the obstacles when using ICT in teaching and learning activities in the EFL classroom? Yes/No

    How? (even as an example)

3. Are you happy to 'devolve responsibility for learning to the learner' (i.e give learners some control)? Yes/No

    How do you do that? And does it work?

4. Do you feel that student-centered learning diminishes your own role as a teacher and leads to the loss of your 'authority'? Yes/No

    Why do you feel that?

5. Do you support the idea of learners being allowed to 'get on with their own learning' heutagogically **in which learners take initiative for:**

- Identifying learning needs
- Formulating learning goals
- Identifying learning resources
- Implementing problem-solving strategies
- Reflecting upon the learning processes to challenge existing assumptions and increase learning capabilities

Yes/No? Can you provide some reasons for your choice?

Thank you for responding to the questionnaire

Appendix D: Students' Questionnaire

STUDENT QUESTIONNAIRE

SECTION 1: Demographic details

Tick (✓) the applicable box for each of the questions below:

1. Age

□ Below 18

□ 18-25

□ Above 25

2. Nationality

□ Saudi

□ Non-Saudi

3. Level

□ Level one

□ Level two

4. Branch

□ Al-Salamah

□ Al-Faislaliah

□ Khulais

□ Al-Kamil

SECTION 2: Student access to and use of Internet and e-learning technologies

Tick (✓) all options that apply in the questions below:

5. Which technology devices do you use?

□ Mobile

□ Laptop

□ Tablet

□ Desktop

□ Other (please elaborate) -------------------------------------

6. Internet access

□ At school

□ At home

□ On mobile devices

□ Internet cafes

7. Purpose of Internet/technology Use

□ Academic/coursework

□ Entertainment

□ Social interaction

□ Correspondence

8. Which e-learning technologies (ICTs) are available to you in the classroom?

□ Virtual Learning Environments

□ Mobile Learning Applications

□ Smart boards

□ Other (please elaborate) -------------------------------------

9. On average, how many hours do you spend on using e-learning technologies for your study each week?

□ Less than 5 hours

□ 6-10 hours

□ 11-15 hours

□16-20 hours

□ above 20 hours

SECTION 3: Students' perceptions of and attitudes toward e-learning.

Read the statements below, and circle the option most applicable to you:

10. I am not comfortable using technology

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

11. I often use technology in the classroom

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

12. I enjoy using books, paper, and pen/pencil to learn

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

13. I enjoy using laptops to learn

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

14. I enjoy using tablets (e.g. iPads) to learn

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

15. I enjoy using phones to learn

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

16. I enjoy learning to use new kinds of technology (e.g. new apps)

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

17. Using technology to do activities does not help me learn in class

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

18. Learning to use technology will help me learn in university

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

19.Learning to use technology now will help me in my future job

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

	For #20 to 31 below, please rank them 1 to 4.Please put a number in each box. **1 is for your first choice and 4 is for your last choice.**

	1=first choice 2=second choice 3=third choice 4=fourth choice	Books/printed paper	Laptop	Tablet	Phone
20	What do you enjoy learning through the most?				
21	What do you prefer to read information on outside of class for fun?				
22	What do you prefer to read information on in class?				
23	What do you prefer to do in-class activities on (e.g., English worksheets, math problems)?				
24	What do you prefer to write a paragraph or essay on?				
25	What would you use to do an infographic (i.e. a poster with facts and charts) on?				
26	What would you use to make a video on?				
29	In general, what do you prefer to use for university?				
	Why? write your answer here				

	Please circle only one answer for #57-58 below			
30	Do you prefer your teachers to present information on....?	Whiteboards	Electronic boards	Both

31	Do you prefer learning with...?	Books, paper, pencil	Laptops, tablets, phones	Both

SECTION 4 : Students' use and experience of e-learning technologies and self-efficacy

Read the statements below, and circle the option most applicable to you:

Goal Commitment Regulation

32. ICTs are important sources and tools to maintain my interest in achieving my language learning goal.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

33. I believe ICTs can help me continue in reaching my ultimate goal in learning the language.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

34. I believe ICTs can help me achieve my language learning goals more quickly and efficiently.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

Affective Regulation

35. When I feel bored with learning the language, I use ICTs to decrease the boredom and increase the enjoyment.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

36. I use ICTs to make the task of language learning more attractive to me.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

37. I feel ICTs effectively maintain my interest and enthusiasm in learning the language.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

38. When I start to resist learning the language, I use ICTs to help myself regain the interest and enthusiasm.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

Social Connection Regulation

39. ICTs help to make my language learning a relaxing process.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree
40. ICTs make me enjoy learning the language more.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

41. I use ICTs to increase the time I spend on learning the language.
5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

42. I use ICTs to connect with native speakers of the language.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

43. I use ICTs to connect with other learners all over the world.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

44. I use ICTs to search for encouragement and support from other learners of the language.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

Resource Regulation

45. When I feel I need more learning resources in the language, I use ICTs to expand my resources.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

46. I use ICTs to increase my learning experience outside the language classroom.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

47. I use ICTs to create and increase opportunities to learn and use the language.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

48. I use ICTs to search for learning resources and opportunities to help achieve my goals.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

49. I search for attractive language learning materials and experience delivered by ICTs.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

Metacognitive Regulation

50. I know how to use ICTs to effectively monitor myself to achieve the learning goals at each stage
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

51. I plan learning tasks to do outside of university that involve the use of ICTs.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

52. I plan relevant materials to do outside of university that involve the use of ICTs.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

53. I adjust my language learning goals using ICTs.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

54. I am satisfied with the way I use ICTs to help myself continue in reaching my learning goals.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

55. I set sub-goals for the next stage of learning in the light of how much I can understand and produce when using ICTs to acquire information or communicate with others.
        5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

56. For the areas that I am weak in, I know how to select and use appropriate ICTs to improve the areas.

5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

Culture Regulation

57. I use ICTs to help myself to increase my ability to interact with the target culture.
   5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

58. I use ICTs to help myself understand and appreciate the target culture better.
   5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

59. I use ICTs to search for answers to my questions about the language and culture.
   5-strongly agree; 4-agree; 3-not sure; 2-disagree; 1-strongly disagree

Thank you for responding to the questionnaire

Appendix E: A Copy of the Items Adapted from Mahdum et al.'s (2019) Survey

Exploring Teacher Perceptions and Motivations to ICT Use

APPENDIX

Part A: Demographic Information

1. Subject taught: _____

2. Teaching experience   :   a. Less than 5 years   b. 5 – 10 years
                              c. 11 – 15 years   d. 16 – 20 years
                              e. More than 20 years

3. Education background: a. Undergraduate degree
                             b. Postgraduate

4. Certification status   :   a. Yes
                             b. No

5. Employment status   :   a. Civil servant
                          b. Non-civil servant

6. Do you have personal computer or laptop?
                             a. yes   b. no

7. Availability of computers and internet access at school:
                             a. poor   b. moderate
                             b. good   d. very good

8. Have you attended training related to ICT use?
                             a. no
                             b. yes, please specify: _____
                             _____

9. Type of ICT used in teaching activities (circle any options which apply)

   a. Slides/ Powerpoint (including text, graph, image, audio, video, or animation)
   b. E-mail
   c. Educational CD / VCD
   d. Film
   e. Online quiz
   f. Game online
   g. Giving task/ discussing learning materials using *smart-phone* (social media like *WhatsApp, Facebook* and *twitter*)
   h. Blog
   i. Others , please specify: _____

Mahdum, Hadriana, & Safriyanti,

Part B: The use of ICT in teaching and learning activities

Please tick (√) the extent to which you feel that best fits for the following statements.

SD = Strongly Disagree   A = Agree

D = Disagree   SA = Strongly Agree

No.	Statement	Response			
		SD	D	A	SA
PERCEPTION					
Perceive of Usefulness					
1	The use of ICT can make learning process more effective.				
2	The use of ICT can increase students' motivation.				
3	The use of ICT can foster positive attitudes of students towards learning.				
4	The use of ICT can make learning activities more interesting and enjoyable.				
5	The use of ICT will enable students to become active students.				
6	The use of ICT can create various learning activities.				
7	The use of ICT can make the students have a better understanding of how technology affects their lives.				
8	I do not feel that the use of ICT has given benefits to me as a teacher.				
9	The use of ICT is as important as the use of textbooks for students.				
10	The use of ICT can improve my teaching performance.				
11	I do not feel that the use of ICT can help me learn new skills.				
Perceived ease of use					
12	The use of ICT in learning activities is quite easy and is not troublesome.				
13	The use of ICT provides convenience in meeting the needs of learning resources.				
14	The use of ICT makes it easy for teachers to explain the concept of the lesson.				
15	The use of ICT provides convenience in monitoring students' learning progress.				
16	The use of ICT provides convenience in controlling students' activities				
17	The use of ICT provides convenience in assessing the students' progress				
18	The use of ICTs provides convenience in storing teachers' and students' documents.				
19	The use of ICT has caused a lot of technical problems.				
20	The use of ICT provides convenience in communication.				
MOTIVATION					
Self-efficacy					
1	I believe in my ability and knowledge to use ICT in learning activities.				
2	I like to use ICT in my learning activities because I am certain that I can get good results and benefits.				

Exploring Teacher Perceptions and Motivations to ICT Use

No.	Statement	Response			
		SD	D	A	SA
3	I am able to search, evaluate and choose ICT devices that are appropriate to support my learning activities.				
4	I have certain strategies to solve problems and obstacles with the use of ICT.				
5	I am sure that I can continue to integrate ICT in my learning activities in the future.				
Educational Benefit					
6	The use of ICT can facilitate student-centered learning.				
7	The use of ICT can prepare students for their future careers.				
8	The use of ICT provides an opportunity to improve the quality of my teaching.				
9	The use of ICT can improve students' understanding.				
10	The use of ICT provides an opportunity to follow the latest information.				
11	The use of ICTs can provide opportunities to study new things.				
Impact on teaching					
12	The use of ICT can contribute to making students work more actively and problem-based.				
13	The use of ICT can inspire and make students able to express themselves.				
14	The use of ICT can improve the quality of student learning.				
15	The use of ICT can make learning more meaningful.				
16	The use of ICT can develop teacher's pedagogical abilities.				
17	The use of ICT can increase self-confidence				
Trainings which have been attended					
18	The training held by the school made me motivated to use ICT in learning activities				
19	I need more trainings on how to use ICT in learning activities				
20	All teachers and prospective teachers must attend trainings on the use of ICT.				

1. What obstacles do you face when using ICT in teaching and learning activities?

2. How do you cope with the obstacles when using ICT in teaching and learning activities?

Thank you for your participation.

Appendix F: A Copy of the Items Adapted from Andrew et al.'s (2018) Survey

APPENDIX A: QUESTIONNAIRE

Student Attitudes towards Technology

> Please fill out the questionnaire below. Participation in this survey is voluntary.
> You do not have to write your name, but please write your student number.

Please fill in the information. For boxes with 'or', please circle the correct option

Student number: ___ ___ ___ ___ ___	PI or ZU	Age: 17-24 25-30 31-40 Over 40	Your course right now:
ABP or Freshman	Male or Female	Number of semesters at university: 1 2 3 4 5 6 7 8	Major you plan to do:

Please circle only **one** answer for #1-15 below

1	Do you own a laptop?	Yes	No		
2	Do you own a tablet (e.g. iPad)?	Yes	No		
3	Do you own a smart phone?	Yes	No		
4	Which do you mostly use to study in class?	Books/paper	Laptop	Tablet	Phone
5	What would you like to use to study in class?	Books/paper	Laptop	Tablet	Phone

	Lowest is 1 Highest is 4	Strongly Disagree	Disagree	Agree	Strongly Agree
6	I am **NOT** comfortable using technology	1	2	3	4
7	I often use technology in the classroom	1 ☹	2	3	4 ☺
8	I enjoy using books, paper, and pen/pencil to learn	1 ☹	2	3	4 ☺
9	I enjoy using laptops to learn	1 ☹	2	3	4 ☺
10	I enjoy using tablets (e.g. iPads) to learn	1 ☹	2	3	4 ☺
11	I enjoy using phones to learn	1 ☹	2	3	4 ☺
12	I enjoy learning how to use new kinds of technology (e.g. new apps)	1 ☹	2	3	4 ☺
13	Using technology to do activities **DOESN'T** help me learn in class	1	2	3	4
14	Learning how to use technology will help me learn in university	1 ☹	2	3	4 ☺
15	Learning how to use technology now will help me in my future job	1 ☹	2	3	4 ☺

Student Attitudes towards Technology

	1=first choice 2=second choice 3=third choice 4=fourth choice	Books/ print-ed paper	Laptop	Tablet	Phone
Ex:	*Example: What do you prefer to look at pictures on?*	*4*	*2*	*3*	*1*
16	What do you enjoy learning on the most?				
17	What do you prefer to read information on outside of class for fun?				
18	What do you prefer to read information on in class?				
19	What do you prefer to do in-class activities on (e.g., English worksheets, math problems)?				
20	What do you prefer to write a paragraph or essay on?				
21	What would you use to do an infographic (i.e. a poster with facts and charts) on?				
22	What would you use to make a video on?				
23	In general, what do you prefer to use for university?				
	Why? *write your answer here*				

Please circle only one answer for #24-26 below

24	Do you prefer your teachers to present information on….?	white boards	electronic boards	both
25	Do you prefer learning with…?	books, paper, and pencil	laptops, tablets, phones	both

26	Technology improves learning….?	a lot	a little	it does not
	Why? *write your answer here*			

Appendix G: A Copy of the Items Adapted from Çelik et al.'s (2012) Survey

Serkan Çelik, Erkan Arkın & Derya Sabriler

Looking at these six factors, the participants reported positive perception of and engagement with the use of technology for goal commitment and affective regulation. Following that, social connection regulation, and resource regulation were reported to be less positive. And finally, the participants' response to the use of technology to monitor their learning and to enhance their cultural learning was the least positive (see Table 5 below for details of the responses).

Table 5

Responses of the students toward the ICT use for self-regulated language learning scale

Items	SA + A	Not Sure	DA + SD	p
Goal Commitment Regulation				
1. ICTs are important sources and tools to maintain my interest in achieving my language learning goal.	301	74	28	.001
2. I believe ICTs can help me continue in reaching my ultimate goal in learning the language.	299	110	40	.001
3. I believe ICTs can help me achieve my language learning goals more quickly and efficiently.	292	83	23	.001
Affective Regulation				
4. When I feel bored with learning the language, I use ICTs to decrease the boredom and increase the enjoyment.	270	90	49	.001
5. I use ICTs to make the task of language learning more attractive to me.	243	107	49	.001
6. I feel ICTs effectively maintain my interest and enthusiasm in learning the language.	227	115	55	.001
7. When I start to resist learning the language, I use ICTs to help myself regain the interest and enthusiasm.	212	127	60	.001
Social Connection Regulation				
8. ICTs help to make my language learning a relaxing process.	248	105	45	.001
9. ICTs make me enjoy learning the language more.	246	104	39	.001
10. I use ICTs to increase the time I spend on learning the language.	251	102	46	.001
11. I use ICTs to connect with native speakers of the language.	255	103	41	.001
12. I use ICTs to connect with other learners all over the world.	251	101	46	.001
13. I use ICTs to search for encouragement and support from other learners of the language.	269	80	50	.001
Resource Regulation				
14. When I feel I need more learning resources in the language, I use ICTs to expand my resources.	289	87	23	.001
15. I use ICTs to increase my learning experience outside the language classroom.	320	56	23	.001
16. I use ICTs to create and increase opportunities to learn and use the language.	284	90	35	.001
17. I use ICTs to search for learning resources and opportunities to help achieve my goals.	274	80	44	.001
18. I search for attractive language learning materials and experience delivered by ICTs.	271	91	37	.001
Metacognitive Regulation				
19. I know how to use ICTs to effectively monitor myself to achieve the learning goals at	222	130	47	.001

The Journal of Language and Linguistic Studies, Vol. 8, No. 2, October 2012

each stage.				
20. I plan learning tasks to do outside of school that involve the use of ICTs.	217	124	55	.001
21. I plan relevant materials to do outside of school that involve the use of ICTs.	231	126	50	.001
22. I adjust my language learning goals using ICTs.	239	119	37	.001
23. I am satisfied with the way I use ICTs to help myself continue in reaching my learning goals.	236	114	49	.001
24. I set sub-goals for the next stage of learning in the light of how much I can understand and produce when using ICTs to acquire information or communicate with others.	236	122	40	.001
25. For the areas that I am weak in, I know how to select and use appropriate ICTs to improve the areas.	243	110	45	.001
Culture Learning Regulation				
26. I use ICTs to help myself to increase my ability to interact with the target culture.	245	110	42	.001
27. I use ICTs to help myself understand and appreciate the target culture better.	246	105	47	.001
28. I use ICTs to search for answers to my questions about the language and culture.	248	97	53	.001

Appendix H: Students' Questionnaire (Arabic Version)

<div dir="rtl">

التعليم الإلكتروني لدراسة اللغة الإنجليزية في المرحلة الجامعية

استبانة الطالبات

القسم الأول: معلومات عامة

<u>**الرجاء وضع علامة صح في المربع الذي ينطبق عليك:**</u>

١- العمر

□ تحت سن ١٨

□ ما بين ١٨-٢٥

□ فوق سن ٢٥

٢- الجنسية

□ السعودية

□ غير سعودية

٣- الجنس

□ ذكر

□ أنثى

٤- مستواك الإنجليزي الحالي في السنة التحضيرية؟

□ المستوى الأول

□ المستوى الثاني

٥- فرع جامعة جدة الذي تدرس فيه؟

□ الفيصيلية

□ السلامة

□ خليص

□ الكامل

القسم الثاني: توفر الإنترنت للطالبات واستخدام تقنيات التعلم الإلكتروني

<u>**الرجاء وضع علامة صح في المربع الذي ينطبق عليك تحت الأسئلة أدناه:**</u>

١-ماهي الأجهزة التكنولوجية التي تستخدمينها؟

</div>

□ الهاتف المحمول (Mobile)

□ الكمبيوتر المحمول (Laptop)

□ الحاسوب اللوحي مثل الآياد (Tablet)

□ الكمبيوتر المكتبي (Desktop)

□ أجهزة أخرى (الرجاء التحديد) ....

٢- توفر الإتصال بالإنترنت

□ في الجامعة

□ في المنزل

□ عن طريق الهاتف المحمول

□ في الأماكن العامة

٣-الهدف من استخدام الإنترنت / التكنولوجيا

□ أكاديمي/ دراسي

□ ترفيهي

□ التواصل الاجتماعي

□ تبادل الرسائل النصية

٤-ماهي تقنيات التعلم الإلكتروني المتوفرة لك في القاعة الدراسية؟

□ بيئة التعلم الإفتراضي مثل ال Blackboard

□ تطبيقات الهاتف المتنقل

□ السبورة الذكية

□ أخرى (الرجاء التحديد) ....

٥- ما هو متوسط عدد الساعات التي تقضينها كل أسبوع في استخدام تقنيات التعلم الإلكتروني للدراسة؟

□ أقل من ٥ ساعات

□ ما بين ٦ إلى ساعات

□ ما بين ١١إلى١٥ ساعة

□ ما بين ١٦ إلى٢٠ ساعة

□ أكثر من ٢٠ ساعة

القسم الثالث: نظرة الطالبات وموقفهن تجاه التعلم الإلكتروني

الرجاء وضع علامة دائرة حول الجواب الذي ينطبق عليك تحت الأسئلة أدناه:

١- لست مرتاحة لاستخدام التكنولوجيا

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢-غالباً ما استخدم التكنولوجيا في القاعة الدراسية.

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٣- أستمتع باستخدام الكتب والورق والقلم عند لتعلم.

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٤- أستمتع أكثر باستخدام الكمبيوتر المحمول (اللاب توب) في التعلم.

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٥-أستمتع باستخدام الحاسوب اللوحي (مثل الايباد ومايشابهه) في التعلم

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٦-استمتع باستخدام الهاتف المتنقل (الموبايل) في التعلم.

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة

٧-استمتع باستخدام أنواع جديدة من التكنولوجيا للتعلم (مثل التطبيقات والبرامج الجديدة)

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٨- لا يساعدني استخدام التكنولوجيا على القيام بالأنشطة التعليمية في القاعة الدراسية

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٩-تعلم استخدام التكنولوجيا سيساعدني في تعليمي الجامعي.

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٠- تعلم استخدام التكنولوجيا سيساعدني في وظيفتي المستقبلية

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

بالنسبة للأسئلة من ١١-١٨ ، الرجاء تقييم إجابتك من ١ إلى ٤ . الرجاء وضع ١ لاختيارك الأول و ٤ لآخر اختيار

	١ = الاختيار الأول ٢ = الاختيار الثاني ٣ = الاختيار الثالث ٤ = الاختيار الرابع	الكتب والأوراق المطبوعة	الحاسب المحمول	الحاسب اللوحي	الهاتف المتنقل
١١	ما هي أكثر وسيلة تستمع بالتعلم من خلالها ؟				
١٢	ما هي الوسيلة التي تفضل استخدامها لقراءة أي معلومة خارج القاعة الدراسية للترفيه؟				
١٣	ما هي الوسيلة التي تفضلها لقراءة أي معلومة داخل القاعة الدراسية للتعلم؟				
١٤	ما هي الوسيلة التي تفضل استخدامها لعمل الانشطة الدراسية (مثل أوراق العمل الإنجليزية، المسائل الحسابية)؟				
١٥	ما هي الوسيلة التي تفضل استخدامها في كتابة الجمل او المقالات؟				
١٦	ما هي الوسيلة التي تفضل استخدامها في عمل رسم تخطيطي (مثل الملصقات العلمية التي تعرض الحقائق والرسوم البيانية)؟				
١٧	ما هي الوسيلة التي تفضل استخدامها لإنشاء فيديو؟				
١٨	ما هي الوسيلة التي تفضل استخدامها فيما يخص الجامعة بصورة عامة؟				

الرجاء كتابة السبب فيما يخص سؤال رقم ١٨:

كلاهما	السبورة الإلكترونية	السبورة التقليدية	بم تفضل أن يشرع المعلم الدرس؟	١٩
كلاهما	الحاسوب المتنقل واللوحي والهاتف المتنقل	الكتب والأوراق والأقلام	بم تفضل التعلم من خلاله؟	٢٠

الرجاء وضع دائرة حول إجابة واحدة بالنسبة لسؤال ١٩ و ٢٠

القسم الثالث: استخدام وتجارب الطالبات لتقنيات التعلم الإلكتروني وكفاءتهن الذاتية

الرجاء إختياراالإجابة التى تصف رأيك:

ضوابط الإلتزام بالأهداف

١- تقنيات التعلم الإلكتروني هي مصادر ووسائل مهمة للحفاظ على اهتمامي في تحقيق هدفي لتعلم اللغة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢- من الممكن أن تساعدني تقنيات التعلم الإلكتروني على مواصلة تحقيق هدفي الأساسي في تعلم اللغة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٣- من الممكن أن تساعدني تقنيات التعلم الإلكتروني على تحقيق أهدافي في تعلم اللغة بطريقة أسرع وأكثر فاعلية

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

الضوابط العاطفية

٤-عندما أشعر بالضجر عند تعلم اللغة، أستخدم تقنيات التعلم الإلكتروني حتى أقل الشعور بالملل وأستمتع أكثر

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٥- أستخدم تقنيات التعلم الإلكتروني حتى أجعل عملية تعلم اللغة عملية أكثر جاذبية

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٦- أعتقد بأن تقنيات التعلم الإلكتروني تبقي / تحافظ على اهتمامي وحماسي في تعلم اللغة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٧- عندما أمتنع عن تعلم اللغة، أستخدم تقنيات التعلم لتساعدني في إعادة حماسي ومواصلة اهتمامي

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

الضوابط الاجتماعية

٨- تساعد تقنيات التعلم الإلكتروني على جعل عملية تعلم اللغة مهمة مريحة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٩- تجعلني تقنيات التعلم الإلكتروني أستمتع أكثر بتعلم اللغة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٠- أستخدم تقنيات التعلم الإلكتروني لزيادة الوقت الذي أقضيه في تعلم اللغة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١١- أستخدم تقنيات التعلم الإلكتروني للتواصل مع متحدثين اللغة الأصليين

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٢- أستخدم تقنيات التعلم الإلكتروني للتواصل مع الأشخاص الآخرين الذين يتعلمون اللغة من شتى بقاع العالم

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٣- أستخدم تقنيات التعلم الإلكتروني للبحث عن التشجيع والدعم من قبل الأشخاص الذين يتعلمون اللغة حول العالم

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

ضوابط المصادر

١٤- أستخدم تقنيات التعلم الإلكتروني عندما أشعر بأنني بحاجة الى المزيد من المراجع والمصادر عن اللغة التي أريد تعلمها

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٥ـ أستخدم تقنيات التعلم الإلكتروني للحصول على المزيد من تجارب تعلم اللغة خارج الفصل الدراسي

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٦ـ أستخدم تقنيات التعلم الإلكتروني لإيجاد وزيادة فرص تعليمية لتعلم اللغة وممارستها

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٧ـ أستخدم تقنيات التعلم الإلكتروني للبحث عن مصادر وفرص تعليمية لمساعدتي في تحقيق أهدافي في تعلم اللغة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

١٨ـأبحث عن وسائل وفرص وتجارب تعليمية جذابة وملفته لتعلم اللغة بواسطة تقنيات التعلم الإلكتروني

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

الضوابط الماوراء معرفية

١٩ـ أعرف كيفية استخدام تقنيات التعلم الإلكتروني لمتابعة نفسي في تحقيق أهداف التعلم في كل مرحلة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢٠ـ أخطط مهام تعليمية للقيام بها خارج الجامعة والتي تنطوي على استخدام تقنيات التعلم الإلكتروني

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢١ـأخطط مواد تعليمية ذات صلة بتعلم اللغة للقيام بها خارج الجامعة ة والتي تنطوي على استخدام تقنيات التعلم الإلكتروني

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢٢ـ أقوم بضبط أهداف تعلم اللغة باستخدام تقنيات التعلم الإلكتروني

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢٣ـ أنا مرتاحة للطريقة التي أستخدم فيها تقنيات التعلم الإلكتروني لمساعدة نفسي على الاستمرار في بلوغ أهدافي التعليمية

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢٤ـ وضعت أهدافا فرعية للمرحلة التالية من التعلم من حيث مقدار ما يمكنني فهمه وإظهاره عند استخدام تقنيات التعلم الإلكتروني للحصول على المعلومات أو التواصل مع الآخرين

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢٥ـ أعرف كيفية انتقاء واستخدام تقنيات التعلم الإلكتروني المناسبة لتطوير جوانب الضعف عندي في اللغة

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

الضوابط الثقافية

٢٦ـ أستخدم تقنيات التعلم الإلكتروني لمساعدة نفسي في زيادة قدرتي على التفاعل مع ثقافة المجتمع الذين أرغب في تعلم لغتهم

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢٧ـ أستخدم تقنيات التعلم الإلكتروني لمساعدة نفسي في فهم وتقدير ثقافة المجتمع الذين أرغب في تعلم لغتهم

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

٢٨ـ أستخدم تقنيات التعلم الإلكتروني للبحث عن إجابة تساؤلاتي عن لغة وثقافة المجتمع الذين أرغب في تعلم لغتهم

أوافق بشدة | أوافق | لست متأكدة | لا أوافق | لا أوافق بشدة |

شكراً على مشاركتك في الإجابة على الاستبيان.

Appendix I: Brunel University's Research Ethics Committee's Approval

College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University London
Kingston Lane
Uxbridge
UB8 3PH
United Kingdom

www.brunel.ac.uk

9 August 2019

CONDITIONAL LETTER OF APPROVAL

Applicant: Miss Sahar Alnofaie

Project Title: E-Learning in the EFL Classroom

Reference: 15516-LR-Aug/2019- 20200-2

Dear Miss Sahar Alnofaie

The Research Ethics Committee has considered the above application recently submitted by you.

The Chair, acting under delegated authority has agreed that there is no objection on ethical grounds to the proposed study. Approval is given on the understanding that the conditions of approval set out below are followed:

- **Consent form - please add at the sentence ' at any time' a date that participants are able to withdraw their data up until.**
- The agreed protocol must be followed. Any changes to the protocol will require prior approval from the Committee by way of an application for an amendment.

Please note that:

- Research Participant Information Sheets and (where relevant) flyers, posters, and consent forms should include a clear statement that research ethics approval has been obtained from the relevant Research Ethics Committee.
- The Research Participant Information Sheets should include a clear statement that queries should be directed, in the first instance, to the Supervisor (where relevant), or the researcher. Complaints, on the other hand, should be directed, in the first instance, to the Chair of the relevant Research Ethics Committee.
- Approval to proceed with the study is granted subject to receipt by the Committee of satisfactory responses to any conditions that may appear above, in addition to any subsequent changes to the protocol.
- The Research Ethics Committee reserves the right to sample and review documentation, including raw data, relevant to the study.
- You may not undertake any research activity if you are not a registered student of Brunel University or if you cease to become registered, including abeyance or temporary withdrawal. As a deregistered student you would not be insured to undertake research activity. Research activity includes the recruitment of participants, undertaking consent procedures and collection of data. Breach of this requirement constitutes research misconduct and is a disciplinary offence.

Professor David Gallear

Chair of the College of Business, Arts and Social Sciences Research Ethics Committee

Brunel University London

Appendix J: A Copy of the Teachers' Recruitment E-mail

Subject: Survey Request: E-Learning in the tertiary EFL Classroom (Teachers' Survey)

Date: Thursday, April 16, 2020 at 9:44:47 PM Arabian Standard Time

From: سحر فهد محمد النفيعي

To: Eli Family, Khulais, alkmail

Dear Colleague,

I am currently seeking participation in a doctoral dissertation survey study aimed at exploring the application of digital technologies in EFL classrooms.

The ultimate faculty participants in this study will be ELI instructors from the University of Jeddah.

If you wish to participate, you will be asked to take an electronic survey that should take roughly 6-10 minutes to complete.

To participate, please click the link below or copy it to your browser.

https://www.smartsurvey.co.uk/s/7QCK6E/

> ## E-Learning in the tertiary EFL Classroom
> Please take a few minutes to take our survey.
> www.smartsurvey.co.uk

If you do not wish to participate in this survey, please disregard the email. Apologies in advance for any cross-postings.

Please consider passing along the invitation to anyone who might be a good potential participant for this study.

Thank you in advance for your time and consideration!

Respectfully,

Sahar Alnofaie

Ph.D. in TESOL Candidate
ELI Language Instructor - University of Jeddah

Appendix K: A Copy of the Students' Recruitment E-mail

Subject: نموذج استبانة الطلاب: تأثير التقنيات التكنولوجية على التعليم المتمركز حول الطالب في المرحلة الجامعية

Date: Thursday, April 16, 2020 at 7:19:38 AM Arabian Standard Time

From: سحر فهد محمد النفيعي

To: ███████████████████

أسعد الله أوقاتكم بكل خير..

الاستبانة المرفقة هي جزء من دراسة أجريها في الوقت الحالي لنيل درجة الدكتوراة من جامعة برونيل في المملكة المتحدة البريطانية. حيث تهدف هذه الدراسة لإكتشاف ما إذا كانت تقنيات التعليم الإلكتروني قد أحدثت تحولًا نموذجيًا في تسهيل التعليم الذي يُركز على الطالب.

تم اختياركم للإجابة على هذه الاستبانة إيماناً مني بأهمية وجهات نظركم حول موضوع دراستي. وساكون شاكرة وممتنة لكم إذا تكرمتم بالإجابة على الأسئلة المتضمنة في الاستبانة بكل جدية ومصداقية. حيث أن نجاح هذا العمل يتوقف على مدى تعاونكم وإخلاصكم في الإجابة. وللإشارة فكل المعلومات المقدمة ستُحضى بالعناية والائتمان

مدة الاستبانة:
قرابة ٥ دقائق.

رابط الاستبانة

https://www.smartsurvey.co.uk/s/Q2XL7C/

> التعليم الإلكتروني لدراسة اللغة الإنجليزية في المرحلة الجامعية: تأثير التقنيات التكنولوجية على التعليم المتمركز حول الطالب في المملكة العربية السعودية
>
> Please take a few minutes to take our survey.
>
> www.smartsurvey.co.uk

إذا كان لديك أي أسئلة حول هذه الدراسة، الرجاء التواصل معي على بريدي الإلكتروني.

مع خالص الامتنان وبالغ التقدير لتجاوبكم وإسهامكم في إنجاز هذا البحث العلمي.

تحياتي،

الباحثة : سحر النفيعي

البريد الإلكتروني :
sfalnofaie@uj.edu.sa

Appendix L: A Copy of the Data Collection Form from the ELI

Ministry of Education

UNIVERSITY OF JEDDAH
ELI- Women's Campus
Graduate Studies and Scientific Research Unit

جامعة جدة
University of Jeddah

وزارة التعليم
جـامـعة جدة
معهد اللغة الإنجليزية شطر الطالبات
وحدة الدراسات العليا والبحث العلمى

Data Collection Permission Form

This form should be filled by the researcher and approved by the Head of Graduate Studies and Scientific Research Unit at ELI in the University of Jeddah.

Part I: Researcher's Statement of Commitment

Researcher's Name- UJ ID	Sahar Fahad Alnofaie
Research Title	E-Learning in the tertiary EFL Classroom: The Impact of Digital Technologies on Student-Centred Pedagogy in Saudi Arabia
Research Overview (purpose/objectives/methods) *No less than 150 words.	The purpose of this investigation is to examine the way in which digital technologies have been introduced into the Saudi EFL classroom in order to explore whether or not they have facilitated a paradigm shift to student-oriented methods of pedagogy. In order to address the research questions, a case study methodology has been selected, providing the opportunity to explore these issues holistically within a real-world setting. The case study will be implemented in the English Language Institute (ELI) at Jeddah University in Jeddah, Saudi Arabia.
Participants (level/ number of students or teachers)	The participants of the study will be selected from both teachers and students (all levels)
Number of Sessions/Hours	Online
Data Collection Instrument(s) (questionnaire, interview, classroom observation, etc) * Please attach a copy of the actual research tool.	Questionnaire (Interviews and observations if required)

I confirm that I will fully address the following ethical issues:

- The participant has been given enough information about the purpose of the research; the reason why she was chosen as a participant; and place, time, duration and frequency of data collection sessions.
- The participant is made aware that she can withdraw from the study at anytime. However, students cannot withdraw from classes wherein data collection has been approved by ELI.
- The participant is reassured of anonymity and confidentiality issues.
- Sufficient precautions will be taken in the processing and storage of confidential material (interviews, completed questionnaires, written samples/reflections).
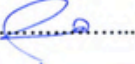
Ministry of Education

UNIVERSITY OF JEDDAH
ELI- Women's Campus
Graduate Studies and Scientific Research Unit

جامعة جدة
University of Jeddah

وزاره التعليم
جـــامـــعة جدة
معهد اللغة الإنجليزية شطر الطالبات
وحدة الدراسات العليا والبحث العلمى

Part II: Approval

Researcher's Signature	Date
Sahar Alnofaie	30/12/2019

Head of Graduate Studies & Scientific Research Unit

Dr. Hajar Al-Harthi

Signature: ....

Date

30..12..20.19

Appendix M: A Sample of a Completed Survey (Teachers)

E-Learning in the tertiary EFL Classroom

Invitation:

Q1. Dear EFL teachers,

I am a PhD student and a faculty member at Jeddah University. I would like to invite you to take part in my research project by completing a brief questionnaire which should take less than 10 minutes to complete.

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any reports or publications. Your institution will also not be identifiable. If you wish to be given a copy of any reports resulting from the research, please ask me to put you on my circulation list.

Thank you for taking the time to read this. If you have any questions about this survey, or difficulty in accessing the site or completing the survey, please do not hesitate to email me:

Sincerely,

Sahar Alnofaie

Email: sfalnofaie@uj.edu.sa

Would you like to participate in this study?

Yes

SECTION 1: DEMOGRAPHIC DETAILS

Q2. 1. Age:

31-40

Q3. 2. Gender:

Female

Q4. 3. Nationality:

Non-Saudi

Q5. 4. Branch:

Alfaisaliah

Q6. 5. Highest Academic Qualification:

Master's

Q7. 6. Teaching qualification:

TESOL/EFL teaching Certificate/Diploma

Q8. 7. Teaching Experience:

11-15 years

Q9. 8. Types of ICT used in EFL classroom at university (Choose all that apply):
Note: (ICT) stands for Information and Communication Technologies.

Powerpoint

Email

Online quiz

Giving task/discussing materials using smartphone (whatsapp, facebook, twitter)

Q10. 9. Have you attended any trainings or workshops about ICT use?

Yes

Please name a few of these trainings attended (if any) :
Using Watsapp in classroom
How to use quizlet
Kahoot :an effective way to have interactive EFL classes
....

SECTION 2: TEACHER PERCEPTIONS OF AND MOTIVATION TOWARDS ICT USE IN EFL CLASSROOM

Q11. PERCEPTION A. PERCEIVED USEFULNESS OF ICT
The use of ICT in the EFL classroom:

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Can make learning process more effective.	X			
2. Can increase students' motivation.	X			
3. Can foster positive attitudes of students towards learning.	X			
4. Can make learning activities more interesting and enjoyable.	X			
5. Will enable students to become active students.		X		
6.Can create various learning activities.	X			
7. Can make the students have a better understanding of how technology affects their lives.	X			
8. Doesn't benefit me as a teacher.			X	
9. Is as important as the use of textbooks for students.		X		
10. Can improve my teaching performance.		X		
11. Doesn't help me learn new skills.			X	

Q12. PERCEPTION B. PERCEIVED EASE OF USE OF ICT
The use of ICT in the EFL classroom:

	Strongly Agree	Agree	Disagree	Strongly Disagree
12. Is quite easy and is not troublesome.			X	
13. Makes the provision of access to learning resources convenient.		X		
14. Makes it easy for teachers to explain the concept studied in the lesson.	X			
15. Provides convenience in monitoring students' learning progress.		X		
16. Makes it convenient to control the students' activities.		X		
17. Makes it convenient to assess the students' progress.		X		
18. Makes it convenient to store teachers' and students' documents.		X		
19. Has caused a lot of technical problems.			X	
20. Provides convenience in communication.		X		

Q13. MOTIVATION A. EDUCATIONAL BENEFIT
The use of ICT in the EFL classroom:

	Strongly Agree	Agree	Disagree	Strongly Disagree
21. Can facilitate student-centered learning.		X		
22. Can prepare students for their future careers.	X			
23. Provides an opportunity to improve the quality of my teaching.		X		
24. Can improve students' understanding.		X		
25. Provides an opportunity to follow the latest information.	X			
26. Can provide opportunities to study new things.	X			

Q14. MOTIVATION B. IMPACT ON TEACHING
The use of ICT in the EFL classroom:

	Strongly Agree	Agree	Disagree	Strongly Disagree
27. Can contribute to making students work more actively by promoting problem-based learning.	X			
28. Can inspire and help students express themselves.	X			
29. Can improve the quality of students learning.	X			
30. Can make learning more meaningful.	X			
31. Can develop teacher's pedagogical abilities.	X			
32. Can increase self-confidence.	X			

Q15. MOTIVATION C. SELF-EFFICACY

	Strongly Agree	Agree	Disagree	Strongly Disagree
33. I believe in my ability and knowledge to use ICT in learning activities in the EFL classroom.	X			
34. I like to use ICT in my learning activities in the EFL classroom because I am certain that I can get good results and benefits.	X			
35. I am able to search, evaluate and choose ICT devices that are appropriate to support my learning activities in the EFL classroom.	X			
36. I have certain strategies to solve problems and obstacles with the use of ICT in the EFL classroom.	X			
37. I am sure that I can continue to integrate ICT in my learning activities in the EFL classroom in the future.	X			

Q16. MOTIVATION D. TRAININGS ATTENDED	Strongly Agree	Agree	Disagree	Strongly Disagree
38. The trainings held by the university made me motivated to use ICT in learning activities in the EFL classroom.	X			
39. I need more trainings on how to use ICT in learning activities in the EFL classroom.		X		
40. All teachers and prospective teachers must attend trainings on the use of ICT in the EFL classroom.		X		

SECTION 3: GENERAL QUESTIONS

Q17. 1. Do you face obstacles when using ICT in teaching and learning activities in the EFL classroom?

Yes

List a few? (if any)
Sometimes internet speed can affect the learning process
Teacher needs to be active n must monitor students
Some students may feel bored

Q18. 2. Do you cope with the obstacles when using ICT in teaching and learning activities in the EFL classroom?

Yes

How? (even as an example)
Teacher must know how and when to use technology in classroom.
Teacher must prepare everything before the beginning of the class.

Q19. 3. Are you happy to 'devolve responsibility for learning to the learner' (i.e give learners some control)?

Yes

How do you do that? and does it work?
By using cooperative learning strategies
By assigning roles and keep changing the roles of the students

Q20. 4.Do you feel that student-centered learning diminishes your own role as a teacher and leads to the loss of your 'authority'?

No

Why do you feel that?
Teacher is not the boss .I believe teacher is a facilitator and in student centre learning teacher can better teach.

Q21. 5. Do you support the idea of learners being allowed to 'get on with their own learning' heutagogically in which learners take initiative for: Identifying learning needs Formulating learning goals Identifying learning resources Implementing problem-solving strategies Reflecting upon the learning processes to challenge existing assumptions and increase learning capabilities

Yes

Can you provide some reasons for your choice?
Learning is for practical use.It's not like transferring data to a machine. Learners must learn a real life practical use of language.Only in that case learning is useful.

OPTIONAL REQUEST

Q22. Would you like to take part in an interview with the researcher to discuss this topic further?

(I'd be happy to adjust my schedule in order to accommodate your timing needs.)

Yes

(if yes, please write your contact information + your name below)

Appendix N: A Sample of a Completed Survey (Students)

<div dir="rtl">

التعليم الإلكتروني لدراسة اللغة الإنجليزية في المرحلة الجامعية

الموافقة على المشاركة في البحث

Q1. أسعد الله أوقاتكم بكل خير..

الاستبانة المرفقة هي جزء من دراسة أجريها في الوقت الحالي لنيل درجة الدكتوراة في بريطانيا حيث تهدف هذه الدراسة لاكتشاف ما إذا كانت تقنيات التعليم الإلكتروني قد أحدثت تحولًا نموذجيًا في تسهيل التعلّم الذي يُركز على الطالب.

تم اختياركم للإجابة على هذه الاستبانة إيمانًا مني بأهمية وجهات نظركم حول موضوع دراستي. وسأكون شاكرة وممتنة لكم إذا تكرمتم بالإجابة على الأسئلة المتضمنة في الاستبانة بكل جدية ومصداقية. حيث أن نجاح هذا العمل يتوقف على مدى تعاونكم وإخلاصكم في الإجابة. وللإشارة فكل المعلومات المقدمة ستُحظى بالعناية والائتمان.

مدة الاستبانة:
ما بين ٦- ١٠ دقائق.

إذا كان لديك أي أسئلة حول هذه الدراسة، الرجاء التواصل معي على بريدي الإلكتروني. مع خالص الامتنان وبالغ التقدير لتجاوبكم وإسهامكم في إنجاز هذا البحث العلمي.

اسم الباحثة : سحر النفيعي
البريد الإلكتروني : sfalnofaie@uj.edu.sa

أوافق على المشاركة في هذه الدراسة

القسم الأول: معلومات عامة

Q2. ١. العمر؟

مابين سن الـ١٨ -٢٥

Q3. ٢. الجنسية؟

السعودية

Q4. ٣. الجنس؟

أنثى

Q5. ٤. مستواك الإنجليزي الحالي في السنة التحضيرية؟

المستوى الثاني

Q6. ٥- فرع جامعة جدة الذي تدرس فيه ؟

السلامة

القسم الثاني: توفر الإنترنت للطلاب واستخدامهم لتقنيات التعليم الإلكتروني

</div>

١. ماهي الأجهزة التكنولوجية التي تستخدمها؟
ملاحظة : (يمكنك إختيار أكثر من إجابة)

الهاتف المحمول (الموبايل/ الجوال)

الكمبيوتر المحمول (لاب توب)

Q7 .٢. توفر شبكات الإتصال بالانترنت (Wi-Fi) :
ملاحظة : (يمكنك إختيار أكثر من إجابة)

في المنزل

في الموبايل/ الجوال

Q8 .٣. الهدف من استخدام الإنترنت / التكنولوجيا ؟
ملاحظة : (يمكنك إختيار أكثر من إجابة)

دراسي / أكاديمي

ترفيهي

للتواصل الإجتماعي

لتبادل الرسائل النصية

Q9 .٤. ماهي تقنيات التعليم الإلكتروني المتوفرة لديك في القاعة
الدراسية؟
ملاحظة : (يمكنك إختيار أكثر من إجابة)

تطبيقات الموبايل/ الجوال

بيئات التعليم الإفتراضية مثل البلاك بورد (BlackBoard) حتى وإن كان على شكل تطبيق

Q10 .٥. ما هو متوسط عدد
الساعات التي تقضيها كل أسبوع في استخدام تقنيات التعليم الإلكتروني
للدراسة؟

ما بين ٦ إلى ١٠ساعات

القسم الثالث: مدى تقبل وفهم الطلاب للتعليم الإلكتروني

Q11. الرجاء إختيار الإجابة التي تعبر عن رأيك:

لا أوافق بشدة	لا أوافق	لست متأكد	أوافق	أوافق بشدة	
				X	١. لست مرتاحاً لاستخدام التكنولوجيا.
				X	٢. غالباً ما استخدم التكنولوجيا في القاعة الدراسية.
			X		٣. استمتع أكثر باستخدام الكتب والأوراق والأقلام في التعلم.
	X				٤. استمتع أكثر باستخدام الكمبيوتر المحمول (اللاب توب) في التعلم.
	X				٥. استمتع أكثر باستخدام الكمبيوتر اللوحي (كالأيباد وما يشابهه) في التعلم.
				X	٦. استمتع أكثر باستخدام الهاتف المنتقل (الموبايل) في التعلم.
		X			٧. استمتع أكثر باستخدام أنواع جديدة من التكنولوجيا للتعلم (مثل التطبيقات والبرامج الجديدة).
	X				٨. لا يساعدني استخدام التكنولوجيا على القيام بالأنشطة التعليمية في القاعة الدراسية.
				X	٩. تعلم استخدام التكنولوجيا سيساعدني في تعليمي الجامعي.
				X	١٠. تعلم استخدام التكنولوجيا سيساعدني في وظيفتي المستقبلية.

القسم الثالث: مدى تقبل وفهم الطلاب للتعليم الإلكتروني (يتبع)

Q12. ١١. ما هي أكثر وسيلة تستمع بالتعلم من خلالها؟
الهاتف النقال (الموبايل)

Q13. ١٢. ما هي الوسيلة التي تفضل استخدامها لقراءة أي معلومة خارج القاعة الدراسية للترفيه؟
الهاتف النقال (الموبايل)

Q14. ١٣. ما هي الوسيلة التي تفضلها لقراءة أي معلومة داخل القاعة الدراسية للتعلم ؟
الهاتف النقال (الموبايل)

Q15. ١٤. ما هي الوسيلة التي تفضل استخدامها لعمل الأنشطة الدراسية (مثل أوراق العمل الإنجليزية، المسائل الحسابية)؟
الهاتف النقال (الموبايل)

Q16. ١٥. ما هي الوسيلة التي تفضل استخدامها في كتابة الجمل أو المقالات؟
الهاتف النقال (الموبايل)

Q17. ١٦.
ما هي الوسيلة التي تفضل استخدامها في عمل رسم تخطيطي (مثل الملصقات العلمية التي تعرض الحقائق والرسوم البيانية)؟

الكمبيوتر المتنقل (اللاب توب)

Q18. ١٧. ماهي الوسيلة التي تفضل استخدامها لإنشاء فيديو؟

الكمبيوتر المتنقل (اللاب توب)

Q19. ١٨. ما هي الوسيلة التي تفضل استخدامها فيما يخص أمور الجامعة بصورة عامة؟

الهاتف النقال (الموبايل)

الرجاء ذكر الأسباب هنا (على الأقل سبب واحد):
لا نحتاج للتنقل

Q20. ١٩. بما تفضل أن يشرح المعلم الدرس؟

السبورة العادية / التقليدية

Q21. ٢٠. بما تفضل التعلم من خلاله؟

السبورة العادية / التقليدية

Q22. أ. ضوابط الإلتزام بالأهداف:

استخدام تقنيات التعلم الإلكتروني ....

لا أوافق بشدة	لا أوافق	لست متأكد	أوافق	أوافق بشدة	
				X	١. يعتبر مصدراً مهماً لتحقيق هدفي من تعلم الإنجليزية.
				X	٢. يعطيني دافع لمواصلة تحقيق هدفي من تعلم الإنجليزية.
				X	٣. يساعدني على تحقيق أهدافي في تعلم الإنجليزية بطريقة أسرع وأكثر فاعلية.

Q23. ب. الضوابط الانفعالية:

استخدام تقنيات التعلم الإلكتروني ....

لا أوافق بشدة	لا أوافق	لست متأكد	أوافق	أوافق بشدة	
	X				٤. يجعلني أحب تعلم اللغة الإنجليزية.
			X		٥. يجعلني أشعر باستمتاع أكثر حين أشعر بالضجر عند تعلم الإنجليزية.
			X		٦. يجعلني أستعيد حماسي وأواصل اهتمامي بتعلم الإنجليزية .
			X		٧. يجعلني أحافظ على هذا الاهتمام والحماس في تعلم الإنجليزية.

Q24. ج. ضوابط التواصل الإجتماعي:

تقنيات التعلم الإلكتروني.................

لا أوافق بشدة	لا أوافق	لست متأكد	أوافق	أوافق بشدة	
			X		٨ تجعل عملية تعلم اللغة الإنجليزية أكثر سهولة وراحة.
		X			٩. تجعلني أكثر استمتاعاً بتعلم الإنجليزية.
				X	١٠. تزيد من وقتي الذي أقضيه في تعلم الإنجليزية.
				X	١١.استخدمها للتواصل مع متحدثي اللغة الإنجليزية الأصليين.
				X	١٢. استخدمها للتواصل مع الأشخاص الآخرين الذين يتعلمون الإنجليزية مثلي حول العالم.
		X			١٣.استخدمها للبحث عن التشجيع والدعم من قبل الأشخاص الذين يتعلمون الإنجليزية مثلي حول العالم.

Q25. د. ضوابط المصادر

استخدم تقنيات التعلم الإلكتروني.................

لا أوافق بشدة	لا أوافق	لست متأكد	أوافق	أوافق بشدة	
				X	١٤. في حال حاجتي للمزيد من المصادر التعليمية لتعلم الإنجليزية.
				X	١٥. لإيجاد وزيادة فرص تعلم الإنجليزية خارج الفصل الدراسي.
				X	١٦.لإيجاد وزيادة الفرص التعليمية التي تمكنني من ممارسة اللغة.
				X	١٧. للبحث عن المصادر والفرص التعليمية لمساعدتي في تحقيق أهدافي في تعلم الإنجليزية.
				X	١٨. للبحث عن وسائل وفرص تعليمية جذابة وممتعة لتعلم الإنجليزية.

Q26. هـ. الضوابط الفوق معرفية:

تقنيات التعلم الإلكتروني.................

لا أوافق بشدة	لا أوافق	لست متأكد	أوافق	أوافق بشدة	
				X	١٩. تساعدني على تطوير جوانب الضعف عندي في اللغة .
				X	٢٠. تجعلني اتابع نفسي لتحقيق أهداف تعلم اللغة في كل مستوى .
				X	٢١. تجعلني أضع أهداف ثانوية للمرحلة التالية من التعلم من ناحية ما يمكنني فهمه بالإنجليزية كتابة أو تحدثا وذلك لغرض الحصول على المعلومات أو التواصل مع الآخرين.
				X	٢٢. تجعلني أضبط أهدافي لتعلم الإنجليزية .
				X	٢٣. تساعدني على الإستمرار لبلوغ أهدافي التعليمية.
		X			٢٤. تساعدني في تخطيط مهام تعليمية لتطبيقها خارج الجامعة.
				X	٢٥. تجعلني لحضر مواد تعليمية إنجليزية مماثلة لما أدرسه لتطبيقها خارج الجامعة .

Q27. و. الضوابط الثقافية:

استخدم تقنيات التعلم الإلكتروني................

	أوافق بشدة	أوافق	لست متأكد	لا أوافق	لا أوافق بشدة
٢٦. لكي أتمكن من التواصل مع أفراد المجتمع الذين أرغب في تعلم لغتهم.	X				
٢٧. لفهم وتقدير ثقافة المجتمع الذي أرغب في تعلم لغته.	X				
٢٨. لرغبتي في معرفة المزيد عن لغة وثقافة المجتمع الذي أرغب في تعلم لغته.	X				

طلب أخير

Q28. هل ترغب في المشاركة في حال رغبة الباحثة بإجراء مقابلة شخصية معك؟ (طلب إختياري)
لا