

**Mobile Learning Readiness of IT Students:
An Example of EMU**

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ABSTRACT

This study investigates the Information Technology (IT) undergraduate students' readiness levels about mobile learning in terms of age, gender and class levels based on the self-efficacy, optimism, and self-directed learning sub-dimensions in Eastern Mediterranean University (EMU). This study was designed using Quantitative research and Survey method which had a Mobile Learning Readiness (MLR) Scale that was used for data collection tool. The study (research) group of this research comprised of 201 registered bachelor students enlisted in the IT department at EMU in Fall 2018-2019 semester. All data collected was analysed using descriptive analysis techniques. Frequency (f), percentage (%), arithmetic mean (X), T-test and One-Way ANOVA was used for analysing the data.

The findings showed strong indications that majority of the IT students demonstrated significantly high levels of readiness for mobile learning and there were no critical contrasts amidst mobile learning readiness as indicated by age and gender orientation. However, a significant difference exists between mobile learning readiness according to class levels of the students, which indicates that a relationship exists between IT students class levels and mobile learning readiness with the 4th year IT students showing high levels of readiness for mobile learning while the 2nd year IT students showed the least level of readiness for mobile learning.

Keywords: readiness, mobile learning readiness, self-efficacy, optimism, self-directed learning.

ÖZ

Bu çalışma Doğu Akdeniz Üniversitesinde (DAÜ) Bilgisayar Teknolojileri Yüksek Okulu (BTYO) lisans öğrencilerinin yaş, cinsiyet ve sınıf seviyelerine göre mobil öğrenime hazır olma durumlarını, özyeterlilik, iyimserlik ve bağımsız öğrenim alt boyutunda incelemektedir. Bu çalışmada veri toplama aracı olarak “mobil öğrenime hazırbulunuşluk ölçeği” kullanılmıştır. Çalışma nicel bir çalışma olarak planlanmış ve tarama metodundan yararlanılmıştır. Bu araştırmanın çalışma grubu, 2018-2019 Güz döneminde DAÜ Bilgisayar Teknolojileri Yüksek Okulunda kayıtlı 201 lisans öğrencisinden oluşmaktadır. Elde edilen veriler, betimsel analiz teknikleri ve SPSS istatistik 22.0 yazılımı kullanılarak incelenmiştir. Bilgileri incelerken frekans (f), Yüzde (%), aritmetik ortama (X), T-test ve ANOVA ile SPSS22 yazılımı kullanılarak analiz edilmiştir.

Araştırma sonucunda yer alan Bilgisayar Teknolojileri Yüksek Okulu (BTYO) lisans öğrencilerinin çoğunluğunun belirgin bir şekilde mobil eğitime hazır oldukları ve yaş ve cinsiyet bakımından anlamlı bir farklılığın olmadığı belirlenmiştir.

Anahtar Kelimeler: Hazırbulunuşluk, Mobil öğrenmeye hazırbulunuşluk, Özyeterlilik, iyimserlik, Bağımsız öğrenim

DEDICATION

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Chapter 1

INTRODUCTION

The existence of technology is one that can be traced from centuries down to the beginning of time. Due to changes in technology, it has affected our lives, surroundings and how we go about our day to day activities. Although technology is being used for variety of purposes, Kozma (2003) recommended that globally, we have not yet accomplished a large amount of technological innovations. Technology has brought about various changes in the different sectors such as education, businesses, transportation, communication, etc. It is applicable to say that technology has evolved, transformed, digitized and revolutionized our way of living (Dubravac, 2015). Technology has proved itself useful in the aspect of time efficiency in the sense that it has made resources available for us with just a push of a button. With technology, concert goers can order their tickets online with little or no stress involved, online purchasing of various products both perishables and non-perishables has emerged, smartphones, smart-homes with newer technologies emerging we can also see smart-cars . In the educational sector, technology has influenced the way educational materials and its contents are being carried out and delivered to the respective recipients, which are students, scholars and educational researchers in all fields. Cuban (2001) implied that Instructors of the 21st century use generally indistinguishable teaching apparatuses from the individuals who preceded them.

However, it has been noted that technology has a huge impact on the technique for educating and learning. Interestingly with the previous instructive frameworks, it tends to be concluded that the present method of education has gone through different generational ages and experienced different changes (Taylor, 2001).

Al-Hariri and Al-Hatami (2017) stated that the utilization of innovation has yielded a wonderful increment in the scholastic accomplishments of students. The changes encountered in the education sector steered institutions to find better alternatives in the aspect of learning. Before transforming technology into education, some problems were found in the most common and general method that has been adapted by educational sectors and teachers for carrying out instruction, which is the traditional or face-to-face method of instruction.

Hannum and Briggs (1982) inferred that an issue with the customary face-to-face classroom includes how they acknowledge or permit what occurs or what students do, without dynamic reaction or opposition, without additionally focusing on the individual difference of the students. This is related to how they expect students with different learning capacities and capabilities to understand and perform at the same pace. Furthermore, the issues could be developed through having nonchalant attitude towards students behaviour and how students with special needs receive limited care to their learning needs. Thus, the issues which happened brought about the reception of coordinating technology into traditional teaching and hence may lead to the elimination of this teaching method (Bánáthy & Reigerluth, 1994). Furthermore, Carlson (2000) conducted and completed an investigation in the Unidad Divina School situated in the cooperative of La Florida in Santiago. The investigation showed that the idea of learning is a noteworthy issue when numerous students are assembled in a

little classroom. Consequently, as indicated by the choice made by Khan and Iqbal (2012) which expresses that a noteworthy issue looked in conventional classroom training is packed classroom. The rise of these issues in the traditional or face-to-face classroom has introduced to investigate and locate a legitimate answer for the issue through elective methodology of guidance presented as distance education.

As defined by Simonson & Schlosser (2002, pp. 216-217), distance education is an "organization based, formal instruction where the learning bunch is now and then geologically isolated, and where there is an intelligent broadcast communications framework that can be utilized to associate students, assets, and teachers". Furthermore, Moore and Kearsley (2005) sorted the historical backdrop of distance education into five generations that are characterized dependent on various generations containing:

- 1st generation: Correspondence education or single medium
- 2nd generation: Broadcasting (radio and tv)
- 3rd generation: Open universities (combined approach)
- 4th generation: Teleconferencing (interactive learning via audio and video)
- 5th generation: Internet/web and virtual classes (online delivery)

The development of the web and the journey for more up to date strategies for instructing and learning prompted the fifth-age of separation training which is the Internet/web and virtual classes demonstrate (online learning) this is not quite the same as different models as in it picks up preferred standpoint on the utilization of web and web for dissemination of data. As the name suggests online learning or virtual learning is the utilization of online instruments or platforms to recognize and share data

between educator and student without meeting vis-à-vis (French, Hale, Johnson, & Farr, 1998). In web based learning or virtual classes, students can learn at their own scholastic pace via completing explicit activities and errands and getting criticism from their educator or fellow students on the online discussion or class. As indicated by Kahn (2001): "Web-based instruction guarantees learning encounters that are open, adaptable, and dispersed, give chances to drawing in, intuitive, and proficient guidance".

Although distance education seems less problematic than the traditional classrooms, some problems are still prone to occur. An issue with distance education is the absence of consistency in program and arrangement usage the reason for this issue will in general come from the absence of sufficient financing (Yusuf, 2006).

Another issue with distance education is that students may generally lose inspiration because of absence of face-to-face correspondence with instructors and course mates (Attri, 2012). Most students concentrate more when there is an educator present directing them and teaching them on the well-ordered procedures to complete, on the grounds that distance education do not give these highlights it might be viewed as a hindrance to the students learning. Simonson, Smaldino and Zvacek (2014) stated that two major conundrums that puzzle distance educators today is the fact that students want to learn in a classroom, yet request to be allowed to learn at a distance.

Different issues that can be found in distance education incorporate; financing issues, authoritative issues, postal administrations and correspondence (Rashid & Rashid, 2012). These are a portion of the issues that exist in distance education framework. An answer for distance education problems was mobile learning.

Crompton (2013) made alterations on Sharples, Taylor and Vavoula (2007) meaning of m-learning and characterized it as : "learning over various settings through social and substance communications utilizing an individual's electronic gadgets".

Fundamentally, mobile learning can happen any place paying little heed to the physical area (inside or outside the repression of a classroom). Some mobile devices that can be utilized to encourage mobile learning incorporate cell phone, PCs, netbooks, and media players. As indicated by Elias (2011), the advantages of mobile learning incorporate the decline in preparing costs, it is a more compensating learning cost than the others, the expense is more affordable since the fundamental media is through the buy of cell phones and it has enhanced dimensions of proficiency, numeracy and cooperation in training among youthful grown-ups and students.

As per a dictionary definition, readiness can be characterized as a condition of being eager or being completely arranged for something. Abas, Peng, and Mansor (2009) defined Mobile Learning Readiness (MLR) as the amount of time or money students are willing to spend in purchasing a new device to facilitate mobile learning and also buy in to administrations that would empower them utilize versatile learning highlights. Mobile Learning Readiness (MLR) alludes to understudies' availability and determination in utilizing versatile innovation in their learning process (Mahat, Ayub, & Luan, 2012). Alijuaid, Alzahrani, and Islam (2014) based the readiness of mobile learning on the usefulness and ease of use. Studies have shown that the readiness of students for mobile learning depends on the students ownership of mobile devices and also the students awareness on the benefits of mobile learning (Ismail, Azizan, & Gunasegaran, 2016).

However, Bachfischer, Dyson and Litchfield (2008) identified some factors that hinder the implementation of mobile learning such as: cost, access to technology and ease of use which creates a problem for m-learning. Another problem faced by m-learning is that the level of acceptance by the staff and learning institutions have been determined as being low and unclear Lawrence, Bachfischer, Dyson, and Litchfield (2008). Barkhi, Belanger, and Hicks (2008) made claims that Technology Acceptance Model (TAM) perceived usefulness (PU) can be seen as a determinant in users acceptance of technologies.

Mobile Learning Readiness scale consisted of three sub-dimensions that were constructed by Lin, Lin, Yeh, and Wang (2016) based on mobile learning self-efficacy, optimism and self-directed learning. Bandura (1977) defined self-efficacy as judgement or verdict on one's personal ability to organise and execute actions required to result in a specific type of performance. M-learning efficacy or mobile learning efficacy is defined as the belief that a union between m-learning with the traditional learning process and the level at which students are confident in integrating technology with the learning process (Mahat, Ayub, & Luan, 2012). In reference to technological readiness, Parasuraman (2000) defined optimism as one of the dimensions of technological readiness whereby it is believed that technological benefits have a positive impact that leads to an increase in the rate work is done. In mobile learning, self-directed learning is a situation where the learners have the main responsibility of implementing and evaluating their learning effort in real time (Hiemstra, 2004).

Hussin, Manap, Amir and Krish (2012) examined the mobile learning readiness among Malaysian students at Higher Learning Institutes. The standard target of this investigation was to choose the understudies accessibility concerning mobile learning

subject to four factors; fundamental status, aptitude preparation, mental availability and spending availability. At the end of the study, the investigation discoveries presumed that the understudies are truly alright with preparing aptitudes and they welcome the compromise of mobile learning in guidance. This examination in like manner revealed that the understudies were questionable about how much money they expected to spend for the telephone line and Internet line isolated from the item and equipment necessities.

Iqbal and Bhatti (2015) directed an exploration so as to examine the dimension of University students preparation towards the utilization of M-learning while at the same time utilizing Technology Acceptance Model. The study was centred around the job which the students play in status for m-learning while at the same time utilizing TAM and furthermore determinants influencing the appropriation of m-learning among college understudies and to discover the relationship among those determinants. At the end of this study, the findings proved that students aptitudes and mental availability firmly impact their perceived ease of use (PEU) and perceived usefulness (PU) of m-learning, while both these develops emphatically affected their conduct expectation to utilize m-learning.

Subsequently, based on Hussin et al (2012) and Iqbal and Bhatti (2015) previous works, Mutono and Dagada (2016) conducted an investigation in South Africa decide the m-learning readiness of post-school instruction and training. The aim of this study was to determine the components that influence learners' readiness for the adoption of mobile learning using a modified version of the Technology Acceptance Model (TAM) with learners' readiness being the only variable that was external. At the end of the investigation, the researchers findings proved that the psychological readiness

and learners readiness has a powerful effect on the perceived ease of use(PEOU) and perceived usefulness(PU) on the use of m-learning systems, while PEOU and PU were seen as strong determinants and having positive effects on users behavioural countenance towards m-learning.

Furthermore, scholars and researchers have carried out several articles and research in the Turkish Republic of Northern Cyprus (TRNC) focusing on the awareness of mobile learning for the teachers in universities with little or none paying emphasis to the students and their readiness. In essence, this research is being conducted to expand the knowledge on the idea of mobile learning readiness level because there is limited information on this topic in the literature review.

In a rapid technological growing era, it is a necessity to determine the mobile awareness and the mobile readiness of students. In previous studies, very little research work has been done focusing on the students in the technologically inclined departments. Generally, it is made known that IT students exhibit adequate knowledge towards the use of instructional technologies to facilitate the learning process, hence, most IT students may have come across or heard of certain m-learning systems before. Furthermore, this research was conducted on IT students because once the mobile learning readiness of IT students is determined, the readiness level by other departments can also be made known.

1.1 Aim of Study

The main aim of this thesis is to investigate the mobile learning readiness level of the Information Technology students of Eastern Mediterranean University.

1.2 Research Questions

The purpose of this thesis is to discuss and provide answers to the research questions stated below:

1. What is the readiness level of IT students for mobile learning with respect to self-efficacy, optimism and self-directed learning?
2. Is there any relationship between the mobile learning readiness level of IT students and age?
3. Is there any relationship between the mobile learning readiness level of IT students and gender?
4. Is there any relationship between mobile learning readiness and student class Level (grade)?

1.3 Significance of Study

The study poses a great significance to the research field, university, faculty members and students. The study will be carried out in order to determine the students' level of readiness in respect to mobile learning and also determine if there is a connection between m-learning and understudies age, gender and class level.

This study is significant to students who want to derive knowledge pertaining to m-learning systems, especially if it is related to the m-learning readiness of IT students. It highlights the students perceptions about m-learning systems and how they are used and also the benefits.

Additionally, this study is of great importance to the university because it will improve the universities' knowledge on the students opinion of using m-learning systems and it also determines how ready the students are to implementing mobile learning in their

learning process. Finally, the study will help future researchers with more information on the student level of readiness for mobile learning in the literature, hence, giving possible solutions and contributions to the growth of the educational field and instructional communication technologies.

1.4 Limitation of Study

The study is being constrained to only the registered bachelor's degree students in Information Technology department in Eastern Mediterranean University during the 2018-2019 Fall semester.

1.5 Definition of Research Key Terms

- **Mobile learning(M-Learning):** This is simply learning over different settings, through social and substance associations, utilizing individual electronic mobile gadgets (Crompton, 2013).
- **Readiness:** Readiness in reference to technology is the tendency the clients have towards using another innovation to achieve work and non-work related errands (Chapnick, 2000).
- **Mobile Learning Readiness(MLR):** This is the measurements at which students report their affirmation and preparation for learning in a m-learning condition. The MLR is used to check how much students demonstrate a capacity to learn with PDAs and smart phones in their classrooms and outside the classrooms (Christensen & Knezek, 2017).
- **M-learning Efficacy:** belief that a union between m-learning with the traditional learning process and the level at which students are confident in integrating technology with the learning process (Mahat, Ayub, & Luan, 2012).

- **Optimism:** optimism can be referred to as having a positive attitude towards technological innovations and the benefits technological innovations can provide such as increased job efficiency and making lives easier (Lai, 2008).
- **Self-directed Learning:** Self-directed learning depicts a procedure by which people step up, with or without the help of others, in diagnosing their adapting needs, detailing learning objectives, recognize human and material assets for learning, picking and execute appropriate learning procedures, and assessing learning results (Knowles, 1975).

Chapter 2

LITERATURE REVIEW

The literature review segment of this thesis relevant and necessary literature directly related with distance education, mobile learning and mobile learning readiness. In addition, related research and findings gotten from researchers and are in literature are discussed.

2.1 Distance Education

Distance education is a well-known term used in the educational field. It is a widely known form of teaching and learning that is being used all around the world by faculty members and instructors mainly in higher institutions for conducting various learning and teaching activities over a distance which is usually geographical. Despite the fact that distance education has been in presence for over an extensive stretch of time (Haasenburg, 2009), the evolution of technology has influenced the process of distance learning due to the technological advancement and need for technology in the educational sector.

It is made known that over the years, theorist and researchers devised various ways of defining distance education with most of their focus being placed on the learners equipoise as stated by Moore (1983) and the formative problems that hinder teaching and learning process as addressed by Keegan (1993) but at the end, they could all agree that distance education involved some kind of physical or geographical separation between the teachers and students.

Keegan (1990), defined distance education based on five key characteristics:

- For distance education to exist, an apparent form of segregating students and teachers for clear differentiation from the traditional method of teaching must exist.
- Educational bodies have a certain impact or control over the design and execution of the learning content.
- A form of using or integrating technological enabled media devices must exist.
- There must be a synchronous method of communicating between teachers and students
- Non-existence of group learning with the aim of facilitating individual learning effectively (Keegan, 1990).

In essence, Keegan (1990) defined distance education as a method of teaching and learning whereby the learners and teachers are geographically segregated and technologically enabled media devices are being used for educational purposes in order to ensure synchronous communication between the teachers and learners with the primary focus of the teacher being to teach the student individually with the aim of eliminating face-to-face learning.

The need for a better understanding of the distance education phenomenon by researchers followed by the evolution in technological field gave rise to the growth of the various generations of distance education. Many researchers have classified distance education into three general categories but the most used in the educational field in respect to distance learning was based on Moore and Kearsley (2005)

generations of distance education. Moore and Kearsley(2005) categorised distance education into five generations that comprises of:

- Correspondence or single medium
- Broadcasting which includes radio and tv
- Open Universities
- Teleconferencing
- Internet/Web

The first generation which is the correspondence generation was categorised as the generation of printed materials (Tagoe & Abakah, 2014), which concentrated principally on the utilization of pieces of literature, for example, books, periodicals like papers, diaries, magazines, and other written words and utilized postal framework for the dispersal of this data (Legge, 1982). Correspondence study can be traced back to the eighteenth century in 1728, when Caleb Phillips who was a professor at that time decided to introduce the use of mail correspondence (which entailed of the teachers and students engaging in communicating through letters) to teach shorthand (Pappas, 2013).

According to Grace (1994), the correspondence method of study focused on an individualized form of learning that generally segregated and protected students from participating in any form of group learning. McKee (2010) said that the experience of correspondence instruction is needy upon the proficiency abilities of the student what's more, upon the course structure aptitude of the instructor and organization. The limited means of communicating and disseminating information in the correspondence generation gave rise to the birth of the broadcasting generation (Holmberg, 1989).

The second generation, which is known as the broadcasting, or multimedia generation entails the use of broadcast models such as tv, radio, tape recordings cooperatively with the use of print technologies found in the correspondence era and computer mediated devices to a certain extent (Nipper, 1989). The multimedia generation was used to develop the dexterity of instructors (Bukhari, 1997). Various variables such as new correspondence innovations, developing complexity in the utilization of pieces of literature, enhanced help administrations for students learning at a distance were a determinant in the development of this generation, which also attributes to the foundation of the Open University generation (1990).

The third generation uses both correspondence and broadcasting technologies and was thereby referred to as the combined approach or Open Universities (Moore & Kearsley, 2005). Wilson (1971) stated that the point of Open Universities is to broaden the doors of higher education by creating opportunities for individuals who had no opportunity to attend University after leaving high school. According to Perraton (1988), Open Universities makes use of broadcast communications advancements to give open doors for synchronous correspondence. Open Universities are devised for instructor's training whereby virtual university that can be used to illustrate to educators a genuine instructor to student collaborations in the classroom, in this way empowering them to watch the administration of learning exercises.

The fourth era of distance education entails of teleconferencing. Teleconferencing can either be audio, audio-graphic, video and broadcast technologies (McKee, 2010). Initially, the first form of teleconferencing used to promote synchronous communication between teachers and learners was the audio teleconferencing technologies whereby students and instructors were able to communicate despite their

geographical locations with the aid of audio devices such as speakers and microphones. Both audio and video conferencing broadened connection and featured the need to create assistance abilities (Burge & Howard, 1990). Furthermore, the audio and video teleconferencing technologies attempted to solve the transactional distance problems Moore (1993) talked about (McKee, 2010). The two-way video conferencing enabled instructors communicate with the students using audio and video conferencing at real-time.

The fifth generation was because of the technological influence in distance education and is referred to as the online delivery generation where learning took place in an online learning environment or virtual classes to facilitate two-way communication between teachers and learners (Taylor, 2001).

2.2 Mobile Learning

Due to the influence of technology on the growth of internet and the transformation of mobile devices such as pcs, tablets, cell phones and other portable devices, it has caused a surgical impact on both the social and economic life of people. According to Kemp (2018), over 4 billion of the world's population makes use of the internet and the number of mobile phone users surged to approximately over 5 billion people, which shows a growth of over 4 percent within one year.

The history of mobile learning can be traced back to the 20th century in 1972 when developer Alan Kay came up with the idea of developing pc's that supports multimedia elements and could also be handheld (Traxler & Crompton, 2015).

Mobile learning is the crossing point whereby wireless portable mobile computing in the form of usb drives, ipods,pda,mp3 player, smartphones, UMPCs ,Tablet PCs are

being used together with e-learning system which incorporates learning with the aid of information communication technology tools (Quinn, 2000). Keegan (2005) explained that:

mobile learning definition and focus should be mainly on the functionality and mobility based on certain characteristics like:

- The mobility and portability of the devices and how individuals can go anywhere with these devices.
- The level of user-friendliness of the device
- The level of affordability and ease-of-use of mobile learning device
- The level at which the devices can be used in various fields other than education (Keegan, 2005).

Some examples of m-learning systems include DuoLingo, Lynda, Coursera, SkillPill, TED, Khan Academy (Kostanda, 2017). The definition of m-learning is based on three distinct concepts which are; mobility of technology, mobility of learning and mobility of learner (El-Hussein & Cronje, 2010).

Lowenthal (2010) deduced that when mobile learning technologies is used in higher institutions, the number of students and student enlistment increases due to the varying age range of students and the accessibility of learning materials regardless of time or location, hence various higher institutions have devised ways of offering m-learning courses in order to increase the level of learning flexibility (Ally & Tsinakos, 2013). Mobile learning systems are more learner-centred and allows the learners personalise the learning content to fit their learning needs (Ally & Prieto-Blázquez, 2014).

Certain principles were established for designing mobile learning systems to adapt to the learning environment of higher institutions. Few of the principles designed are: the use of mobile learning in real life scenarios (Herrington & Herrington, 2006), the use of mobile learning by users who are always on the go (Traxler J. , 2007). Other mobile learning principles include access to learning materials, non-concurrent access to

materials, ability to support blended learning, transparency and self-actuation (Heick, 2018).

Mobile learning can be very advantageous for both students and instructors in multiple ways. Benefits of mobile learning include how students can participate in lectures without respect to their geographical location; students can work collaboratively with fellow students without being in the same place or same time zone; m-learning enables instructors post more lecture materials that support audio-visuals; and m-learning facilitates self-directed learning (Corbeil & Valdes-Corbeil, 2007).

Mobile learning is used all over the world by both instructors and students of varying age range and different locations, however, certain challenges plague the existence of m-learning. Some challenges faced in m-learning includes the fact the learning materials should be able to fit the learners preferences (Ting, 2005), it can pose as a distraction to students (Terras & Ramsay, 2012), the accessibility and affordability of mobile devices by both students and instructors (Osang, Tsuma, & Ngole, 2013).

Despite the challenges faced in m-learning, various researchers have reported positive impacts in m-learning regarding the effects in the pedagogical field. Naismith, Lonsdale, Vavoula, and Sharples (2004) postulated that with the growth and emergence of m-learning systems the process of learning will become more learner centred paying attention to that particular learner and their surrounding other than the learner in the traditional classroom environment. Using smartphones for m-learning can be used to aid in overpassing technological separation and therefore can be used by learners who face certain learning challenges (Nail & Ammar, 2017), also m-learning use in higher institutions prepares students for employment in the future since

most companies have adopted the use of m-learning for training their workers (Gowans, 2017).

2.3 Readiness

Readiness is defined as an individual's enthusiastic and willing behaviour to indulge in certain activities that may be beneficial to them, in which they are mentally, emotionally, physically and psychologically prepared for and can derive certain knowledge or skills (Gandhi, 2010). Learning readiness refers to the willingness of individuals to attain certain mastery, which may result in behavioural changes. According to Lee (2018), certain traits that must be dominant in students to determine their readiness for learning include, critical thinking abilities, self-awareness, communication, self-directed, motivation, grit and perseverance etc.

2.4 Mobile Learning Readiness

The contribution of mobile devices to educational field cannot be underestimated. The use of internet and mobile devices to facilitate mobile learning has made it possible for scholars to have direct access to the learning materials. Mobile Learning Readiness (MLR) can be viewed as the understanding individuals have towards the design and development of mobile technologies that can be used for learning (Terras & Ramsay, 2012). Tremblay (2010) proved that mobile learning usage by learners and instructors have introduced a certain amount of flexibility to the learning system which ensures that information is being distributed effectively. However, when investigating the readiness levels, the readiness at which people are willing to accept change can be seen as an important indicator which can determine if the changes that will be applied will be accepted during the implementation of a new learning method.

Chapnick (2000) postulated some factors that determine the adoption of e-learning systems which can also be administered to the m-learning system framework, the factors listed by Chapnick included; psychological, technical, financial , sociological, human resource, equipment and content readiness (Chapnick, 2000).

Iqbal and Bhatti (2015), in accordance with the Liaw, Huang, and Chen (2007) findings, state that students' countenance is a major factor in determining the level of acceptance towards m-learning systems.

Moreover, previous studies conducted by various researchers have indicated respondents gender, (Trifonova, Georgieva, & Ronchetti, 2006), technological feasibility, student amenities, pedagogical gains (Kukulska, 2007), respondents age group (MacCallum & Jeffrey, 2009) and class levels (Nwagwu & Odetumibi, 2011) are noted to have significant effects on the readiness levels of m-learning in individuals.

Additionally, to be able to measure the readiness levels majority of researchers have adopted the use of Technology Readiness Index (Parasuraman, 2000) which is a strong indicator used to measure readiness levels, and also the use of the Technology Acceptance Model(TAM) which is used when the mobile learning systems are being used by learners. Lin et al. (2016) developed a scale to be able to measure the readiness levels in learners towards the adoption of mobile learning based on their self-efficacy, optimism and levels at which they can conduct self-directed learning.

2.4.1 Self-Efficacy

Self-efficacy can be explained as an individual's judgement based on their capabilities to organize and take certain courses of action. That is to say, in self-efficacy, it is

believed that people have a certain amount of control over what they do (Resnick, 2018). However, it is noted that the self-efficacy theory is based on social cognitive theory together with conceptualized person-behavior-environment, hence, the strong belief that attitude and psychological change occurs when person's sense of effectiveness is being altered (Maddux & Stanley, 1986).

According to the works of Bandura (1986) on self-efficacy, he postulated that a person's self-efficacy is being measured and validated based on four varying processes. The first process is based on the individual's actual performance, also known as their direct experiences. The next process is based on indirect experiences which can be derived by imitation, mimicking, learning based on observation and modeling instructions. Subsequently, the third process is the perception of others which is being voiced out, and the final process is derivation of further knowledge based on what the individual already knows.

In accordance with the findings of Lu and Viehland (2008), mobile self-efficacy is said to be a strong determinant while determining the level of students acceptance towards m-learning systems. Additionally, Isman and Celikli (2009) posited that self-efficacy is one of the factors that determine the success of students participation in m-learning. Students who exhibit high levels of self-efficacy tend to be more actively engaged in computer and m-learning activities.

2.4.2 Optimism

Optimism as defined by Scheier and Carver (1992) is the belief in a general introduction toward the future in which one trusts that good things will be copious what's more, terrible things rare. Individuals who are seen as being optimists are often seen as always being prepared by centering their thoughts and activity around goal

pursuit and persistence and the acquisition of opportunities and resources. In addition, Optimism fosters a positive mindset to carry out challenges with the confidence that one can succeed.

In the aspect of technology, optimism can be referred to as having a positive attitude towards technological innovations and the benefits technological innovations can provide such as increased job efficiency and making lives easier (Lai, 2008). Furthermore, optimism is seen as a factor that influences and thereby increases individuals technological and mobile readiness (Parasuraman & Colby, 2001).

2.4.3 Self-Directed Learning

According to the works of Knowles (1975), self-directed learning is characterized as a procedure in which people step up with regards to understanding their adapting needs, building up learning objectives, recognizing human and material assets for learning, picking and actualizing proper learning procedures, and assessing learning results.

The capacity to embrace all or the vast majority of the structure of one's own learning, to assess execution, and to make modifications likewise are simply the properties of being a self-directed learner. Self-directed learning is identified with students propensities and these are the capacities that are not identified with any technologically made gadget. Self-directed students are often times seen as being spurred, industrious, autonomous, self-disciplined, and self-confident and goal-oriented (Stary & Totter, 2006).

2.5 Related Research

Since the concept of mobile learning commenced, many researchers have conducted various studies to determine the mobile learning readiness and acceptance level of both students and teachers. This section tends to shed light on various related researches and their findings about the mobile learning readiness level.

Suhail (2017) explored the mobile learning readiness level in Uganda with focus being on the Kampala University students, which is a private sector university. The aim of the study was to evaluate the level of students' readiness and attitude for the adaptation of mobile learning while also focusing on determinants such as perceptions and limitations that hinder the implementation of mobile learning systems in the present learning environment at this particular university. The study consisted of 38 participants who partook of the survey voluntarily after the convenient sampling method of selection was applied, out of which 33 of the respondents were female while the remaining 5 were male. The study was conducted using a quantitative research approach and survey method that was applied using a paper-based questionnaire, which was later analysed using the descriptive statistics technique. At the end of the research, the findings proved that all the respondents had a form of mobile device and that the students in this university displayed a positive behaviour in adapting to m-learning systems.

Alijuaid, Alzahrani and Islam (2014) led an empirical examination in regard to surveying Mobile Learning Readiness in Saudi Arabia Higher Education. Their investigation was done for evaluating the lecturers preparation for mobile learning in higher education in regard to the perceived usefulness and perceived ease of use. Their

members included 140 educators and their information was gathered utilizing online survey. The study was conducted using statistic information utilizing descriptive analysis with the Technology Acceptance Model system. At the end of the study, the outcome demonstrated that perceived usefulness and perceived ease of use are the substantial indicators of evaluating instructors' readiness for mobile learning in higher education and henceforth reasoned that perceived usefulness and perceived ease of use significantly affect preparation for mobile learning.

A survey was conducted by Christen and Knezek (2017) to validate the mobile learning readiness level of teachers by evaluating their attitudes towards the adoption of this system. This study aim was to validate a survey instrument that can be used in measuring the degree at which instructors who carry out learning activities in a classroom are ready to integrate the use of portable devices for the purpose of both teaching and learning based on the possibilities of learning with mobile devices, the benefits, preferential mobile device options, and the outside factors that influence the use of m-learning in classrooms. The participants of this study included 1430 teachers who teach k-12 students in U.S public schools in the South Western districts, and the study utilized the use of a survey for the data collection. At the conclusion of the study, the findings proved that the possibilities, benefits, preferences and outside factors that determine the use of mobile devices for learning are said to have outstanding relations with the use of the new mobile learning readiness survey scale that was developed.

Miglani and Awadhiya (2017) researched on the Instructors at Open Universities belonging to Commonwealth Asia countries to determine their perceptions and readiness towards m-learning systems. The respondents who participated in this study comprised of 102 instructors from 18 varying Open Universities in 5 different

countries enlisted in Commonwealth Asia who were selected using the purposive method of non-probability sampling technique. The outlined objective of this research was to determine the levels of readiness for m-learning systems in instructors. Additionally, the study applied the use of a survey method by distributing questionnaires for data gathering. In conclusion, the findings of this study illustrated that instructors have knowledge about mobile devices and also demonstrate readiness in their skills towards implementing m-learning systems. This study also confirmed that the levels at which m-learning systems engages learners in activities is relatively high.

Additionally, Shorfuzzaman and Alhussien (2016) based their study on the learners readiness to adopt to mobile learning systems from the perspectives of students in Gulf Cooperation Council (GCC) country. The respondents who participated in this study consisted of 84 undergraduates students from a GCC country in the College of Computers and Information Technology within the age range of 18-25. The researchers aim was to examine the learners' readiness towards the adoption of m-learning in higher education establishments in respect to GCC. The researchers conducted an empirical study while using survey questionnaires for data collection and statistical tools for analysis. Conclusively, the researchers' findings indicate that results is beneficial to governmental bodies to assist in the design of well understandable m-learning systems.

Almutairy, Yota, and Trevor (2015) researched on students and their perceptions of mobile learning readiness. The participants who took part in this research consisted of 131 students who were natives of Saudi Arabia but studied at a university in the United Kingdom. The main purposes of this research was to gain better understanding based

on the psychological readiness towards mobile readiness from the perspective of Students from Saudi Arabia. In this study, the researchers applied the use of survey method, which comprised of questionnaires and interviews in their data gathering process while selecting their respondents randomly. At the end of their findings, the researchers implied that students are high levels of confidence when making use of portable devices in their day-to-day activities and that Saudi students in universities have a solid knowledge and are psychologically ready for mobile learning.

Bakhsh, Mahmood and Sangi (2015) investigated the students readiness towards mobile learning at Allama Iqbal Open University in Pakistan. The participants that were involved in this study comprised of 178 students from different faculties. However, the researchers aim was to assess the readiness levels of students for mobile learning based on the features of their mobile devices, availability of the mobile service providers and students previous knowledge of e-learning and their readiness towards the adoption of m-learning systems. Furthermore, a survey was applied for information gathering purposes and SPSS for the analysis of data gathered. The researchers' findings conclude that students exhibit high levels of readiness towards the use of smartphones in carrying out learning venture, also, the students in AIOU agree with using mobile devices for learning activities.

Chaka and Govender (2017) carried out a study on the students' perceptions and readiness towards mobile learning systems in colleges of education in Nigeria. The study was made of 320 students from 3 varying colleges of education. This research was aimed at investigating students' perceptions and readiness for adopting mobile learning. Additionally, the researchers in this study applied the use of quantitative research approach based on the Unified Theory of Acceptance and Use of Technology

model. The conclusive findings of the researchers at the end of their study indicates students enrolled in colleges of education in Nigeria have high levels of optimism towards using mobile learning, hence, they are ready to make use of it.

Hamat, Embi and Amin (2012) researched on the lecturers from the University of Kebangsaan Malaysia and their level of readiness towards mobile learning. This research was aimed at understanding the lecturers perceptions on the use of m-learning in conducting instructional activities and their readiness to use this systems. The participants involved in this study was a total of 374 educators who voluntarily participated in an online survey within a one month duration. At the end of the study, the findings indicated that a significant number of lecturers owned mobile devices and acknowledged the fact that mobile learning systems would be helpful for their students as well due to the flexibility of the system.

Additionally, Shorfuzzaman and Alhussien (2016) based their study on the learners readiness to adopt to mobile learning systems from the perspectives of students in Gulf Cooperation Council (GCC) country. The respondents who participated in this study consisted of 84 undergraduates students from a GCC country in the College of Computers and Information Technology within the age range of 18-25. The researchers aim was to examine the learners' readiness towards the adoption of m-learning in higher education establishments in respect to GCC. The researchers conducted an empirical study while using survey questionnaires for data collection and statistical tools for analysis. Conclusively, the researchers' findings indicate that results is beneficial to governmental bodies to assist in the design of well understandable m-learning systems.

Chapter 3

METHODOLOGY

This segment of this thesis is aimed at focusing on the research method used while conducting the research and the sampling technique used while collecting the data. It also discusses the participants, data collection tools, data analysis, validity and reliability used in analysing the data and was also implemented in answering the proposed research questions.

3.1 Research Method

In carrying out this study, the use of quantitative research approach and the survey method of research was applied. Quantitative method of research is a phenomenon of explaining certain questions by the collection of various numerical data which are analysed by using mathematically based statistical methods (Aliaga & Gunderson, 2000). An anchor in the quantitative method is the use of numerical data which can be derived from questionnaires or surveys and other statistical methods (Aliaga & Gunderson, 2000). Kelley, Clark, Brown and Sitzia (2003) defined survey method as the collection of data from a large number of participants with similar interests and gathering a small amount of data from them. Survey can exist in the form of a questionnaire or interview that can be used in determining the attitude of the participants. The survey method was used in the application of the questionnaire to determine the mobile learning readiness level in respect to the Information Technology students.

3.2 Sampling Technique

Initially, the researcher tried to reach all registered IT undergraduate students, however, due to the use of convenience sampling technique only 201 students were reached and agreed to participate voluntarily.

Convenience sampling is sometimes known as grab or opportunity sampling or accidental or haphazard sampling. Convenience sampling are those for which the probability of selection is unknown (Dörnyei, 2007). The reason researchers use convenience sample is because they are easy to get. It consists of participants selected because they are available. In these sampling method, some members of the target population are selected but others are not because they are not present when the sample is being assembled as a result the data collected from a convenience sample may not be applicable to the target group at all (Saumure & Given, 2008).

3.3 Participants

In this study, the participant population involved were all undergraduate students who registered during the 2018-2019 fall semester in Eastern Mediterranean University of the Information Technology Department which included first, second, third and fourth year students.

Table 3.1: Gender of Participants

Gender	Frequency(n)	Percent (%)
Male	170	84.6
Female	31	15.4
Total	201	100

As illustrated in Table 3.1, the survey shows that a total of 201 students participated in the research out of which 84.6% belonged to the male gender (170 students) and 15.4% (31 students) belonged to the female gender.

Table 3.2: Age Range of Participants

Age Range	Frequency(n)	Percent (%)
18-20	84	41,8
21-25	100	49,8
26-30	14	7,0
31+	3	1,5
Total	201	100,0

As it is seen in Table 3.2, the researcher was able to understand 41.4% (84 students) belonged to the age range of 18-20, 49.4 % (100 students) were in the 21-25 years age range, 7.0 % (14 students) were 26-30 years and 1.5 % (3 students) were above the 31+ age range.

Table 3.3: Class level(grade) of Participants

Class Level(grade)	Frequency(n)	Percent (%)
1st Year	75	37,3
2nd Year	33	16,4
3rd Year	43	21,4
4th Year	50	24,9
Total	201	100,0

Table 3.3 above shows the class level of the students out of which 37.3% (75 students) were in their 1st Year, 16.4 % (33 students) were in their 2nd Year, 21.4% (43 students) 3rd Year and 24.9% were in their 4th Year.

Table 3.4: Participants who own personal mobile device

Own Personal Mobile Device	Frequency(n)	Percent (%)
Yes	195	97
No	6	3
Total	201	100,0

Table 3.4 above shows the number of students who own a personal mobile device. Upon investigating the students with personal mobile device, 97% (195 students) answered Yes that they own a personal mobile device, while 3% (6 students) answered No, they do not own a personal mobile device.

Table 3.5: Participants who have access to internet connection.

Access to Internet Connection	Frequency(n)	Percent (%)
Yes	199	99,0
No	2	1,0
Total	201	100,0

As it is shown in Table 3.5, 99 % (199 students) said they have access to the internet connection while 1 % (2 students) said they do not have access to internet connection.

Table 3.6: Hours Spent on Mobile Device by Participants

Hours Spent on Mobile Device	Frequency(n)	Percent (%)
Less than 1 hour	8	4,0
2-5 Hours	101	50,2
6-10 Hours	68	33,8
11 Hours +	24	11,9
Total	201	100,0

Table 3.6 shows the hours spent on mobile device by the participants. When the student participants hours spent on mobile device was examined, 4% (8 students) answered

that they spent less than 1 hour on their mobile device, 50.2% (101 students) spent 2-5 hours on their mobile device, 33.8% (68 students) spent 6-10 hours while 11.9% (24 students) spent 11+ hours on their mobile devices.

Table 3.7: Participants who have heard of mobile learning

Heard of Mobile Learning	Frequency(n)	Percent (%)
Yes	142	70,6
No	59	29,4
Total	201	100,0

Table 3.7 shows the number of students who heard of mobile learning. 70.6 % (142 students) said they have heard of mobile learning before now, while 29.4 % (59 students) said they have never heard of mobile learning before that day.

Table 3.8: Participants who have used mobile learning

Used Mobile Learning	Frequency(n)	Percent (%)
Yes	114	56,7
No	87	43,3
Total	201	100,0

Table 3.8 shows the number of participants who have used mobile learning. 56.7 % (114 students) said they have used mobile learning, while 43.3% (87 students) said they have never used mobile learning before.

3.3 Data Collection Tools

The survey used consisted of two parts: the first part was the demographic and the second part was the Mobile Learning Readiness (MLR) scale. The demographic section was developed by the researcher and included general type questions about the participants such as gender, age range, academic class level(grade) etc. The second part of the survey was established by Lin et al. (2016) and is based on a Likert type

scale ranging from 5(strongly agree) to 1(strongly disagree) and consists of 19-items that contained affirmative type questions with the absence of reverse type questions. The scale was classified further into three sub-dimensions based on constructs found in Lin et al. (2016) research which are: students' m-learning self-efficacy, students' optimism levels towards the use of m-learning systems and students' ability to conduct self-directed learning. The students m-learning self-efficacy measurements consisted of 7 question items that was aimed at determining the level of student confidence using mobile learning systems. The students' optimism levels towards the use of m-learning technologies for education sub-dimension consisted of 7 question items that was aimed at determining the level of positive impact mobile learning will have on the students. The third sub-dimension consisted of 5 question items that was aimed at determining the level at which students can learn by themselves and also manage their time effectively.

3.4 Data Analysis

All data collected was analysed using descriptive analysis techniques and with the use of SPSS statistics 22.0 software. Frequency (f), percentage, T-test and one-way ANOVA was used for analysing the data. Descriptive analysis and frequency was used to show the derived result in reference to each posed research question variable while the T-test and ANOVA was used to analyse data that deals with only two variables in the case of T-test and more than two variables in the case of ANOVA.

3.5 Validity and Reliability

The Cronbach alpha value from the findings of the original research conducted by Lin et al., (2016) was determined as 0.93 which proved that the MLR scale was highly reliable and the items in this scale were consistent. However, for this study, an internal consistency on the reliability coefficient of the MLR scale (Cronbach alpha value of

19-items) was conducted and the result was determined as 0.88 which is a significantly high value and is close to the value of 1, hence proving the values in the MLR scale are consistent. In essence, a high Cronbach alpha value indicates that the conditions necessary for construct validity were satisfied (Kelley, Clark, Brown, & Sitzia, 2003).

Chapter 4

RESEARCH FINDINGS

In this chapter, the results obtained from the analysis of the data are being presented. The details below show the students readiness for m-learning according to age, gender and academic class level.

4.1 Mobile Learning Readiness of IT Students with Respect to Self-Efficacy, Optimism and Self-Directed Learning

Table 4.1 shows the mean and standard deviation of the students readiness for m-learning based on 3 sub-dimensions.

Table 4.1: Mobile Learning Readiness Level of IT Students

Sub-Dimensions	N	Mean	SD
M-learning Self-Efficacy	201	27.66	4.17
Optimism	201	26.52	5.17
Self-Directed Learning	201	18.91	3.58

As it can be seen in Table 4.1, the m-learning self-efficacy, optimism, and self-directed learning sub-dimensions have 7, 7 and 5 items respectively which are being evaluated on a Likert type scale consisting of 5 items with the minimum value being 1 and a maximum value of 5.

The average mean of each sub-dimension was calculated as 21 for m-learning self-efficacy, 21 for optimism and 15 for self-directed learning. Additionally, a mean value which is significantly greater than the average mean midpoint value indicates that the mean value is moderately high, however, a mean value that is considerably larger than the average mean midpoint and is within a proximate range with that of the maximum mean value signifies that the mean value is respectively very high.

Furthermore, the mean values of the m-learning self-efficacy, optimism and self-directed learning values were 27.66, 26.52, and 18.91 with standard deviation values of 4.17, 5.17, and 3.58. In addition, the mean values of the m-learning self-efficacy and optimism values were within a proximate range and had values that indicated that they were relatively high. Consequently, when compared to the other 2 sub-dimension, the self-directed learning sub-dimension had a moderately high mean and standard deviation values.

4.1.1 M-Learning Self-Efficacy of IT Students

In regards to the m-learning readiness of IT students, the m-learning self-efficacy illustrates the confidence level of IT students when using m-learning systems based on 7 items.

Table 4.2: IT students opinion while conducting the fundamental elements of mobile learning frameworks

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM1	Strongly Disagree	3	1.5	4.01	0.85
	Disagree	5	2.5		
	Indifferent	38	18.9		
	Agree	97	48.3		
	Strongly Agree	58	28.9		

According to Table 4.2, majority of the students feel confident in performing the fundamental functionalities of m-learning systems, as a result, 77.2% showed high level of positivity towards their level of confidence in conducting the rudimentary tasks of m-learning systems (155 students). However, 4% were in opposition of the idea (8 students) of being able to execute the primary functionalities of m-learning systems, while 18.9% were neutral about this proposition (38 students).

Consequently, on a Likert scale of 5 where the items were validated on, a mean estimation of 4.01 and a standard deviation estimation of 0.85 denotes that when students are using m-learning systems, they exhibit a high level of confidence in executing the rudimental functionalities. This indicates that when IT students are faced with an m-learning site or application they are able to perform basic operations on their own.

Conclusively, the result gotten from this finding indicates a different opinion from the result of Mahat et al (2012) study which stipulated that the students level of confidence when attempting to use m-learning systems without the assistance of someone else is at an average level.

Table 4.3: IT students opinion on their insight and abilities while using m-learning frameworks

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 2	Strongly Disagree	4	2.0	3.91	0.88
	Disagree	8	4.0		
	Indifferent	40	19.9		
	Agree	100	49.8		
	Strongly Agree	49	24.4		

Subsequently, as stated in Table 4.3, a greater number of the students feel highly satisfied with their expertise and level of competence in operating m-learning systems, as a result, 74.2% showed high level of affirmation towards their awareness of operating m-learning systems (149 students). Nonetheless, 6% differed to having strong level of competence while operating m-learning systems (12 students), and 19.9% of the students had an indifferent opinion on the idea (40 students).

Furthermore, when validated on a Likert scale of 5, a mean estimate of 3.91 with an SD of 0.88 were achieved, which proves that when students are using m-learning frameworks, they feel sure about their insight and abilities of utilizing m-learning frameworks. In conclusion, the result of the finding is same as that of Hussin et al (2012) study, which verified that 75% of the respondents in their study had knowledge of m-learning systems.

Table 4.4: IT students opinion about utilizing m-learning frameworks to viably communicate with others

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 3	Strongly Disagree	1	0.5	3.99	0.86
	Disagree	7	3.5		
	Indifferent	48	23.9		
	Agree	83	41.3		
	Strongly Agree	62	30.8		

According to Table 4.4, a greater part of the student population feel feel positive about utilizing m-learning frameworks to viably communicate with others. As a result, 72.1% exhibited high level of positivity towards the use of m-learning systems as a

means of facilitating communication with others (145 students). On the other hand, 4% disapproved of the idea that m-learning systems can be used to foster communication with others (8 students), while 23.9% were unbiased to the idea (48 students).

In addition to this, mean estimates of 3.99 with an SD of 0.86 was derived, which demonstrates that when students are using mobile learning systems, they exhibit high level of confidence in using m-learning systems to foster effective communication with others.

In essence, this means that students relatively find it easier in communicating with peers and instructors via m-learning systems rather than any other means of communication. Similarly, same results were achieved in the findings of Georgieva, Smrikarov, and Georgiev (2011) study which shows that students interact with their peers very effectively when using m-learning systems to communicate.

Table 4.5: IT students opinion on utilizing the web (Google, Yahoo) to discover or assemble data for m-learning

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 4	Strongly Disagree	2	1.0	4.31	0.89
	Disagree	5	2.5		
	Indifferent	31	15.4		
	Agree	54	26.9		
	Strongly Agree	109	54.2		

In reference to Table 4.5, it can be deduced that a huge population of the respondents feel highly assured on the use of internet search site such as yahoo or google in gathering information regarding m-learning. Subsequently, 81.1% show high levels of positivity towards the use of search sites in finding materials related to m-learning. However, despite the high level of positivity of learners towards the use of search site, 3.5% disagreed with the idea and that they do not feel confident when using search sites to find materials related with m-learning, 26.9% had a neutral point of view on using search sites in finding materials for m-learning.

In addition to their findings, a mean estimate of 4.31 and an SD value of 0.89 illustrates that the level at which students perceive the use of search sites to find materials for m-learning is relatively high. It can be concluded that the use of internet to facilitate m-learning for IT students is high due to the fact that internet provides easier form of access to a large amount of information.

Table 4.6: IT students opinion on their ability to learn how to work with m-learning systems

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 5	Strongly Disagree	2	1.0	3.80	0.91
	Disagree	16	8.0		
	Indifferent	47	23.4		
	Agree	91	45.3		
	Strongly Agree	45	22.4		

As it can be seen in Table 4.6, 67.7% of students depict very high level of confidence when learning how to engage in m-learning systems. In opposition to this, 9% of

students were against the idea, expressing that they do not feel slightly confident when learning to engage in m-learning systems, and 23.4% of students were unbiased about their confidence level when learning how to engage the use of m-learning systems. Additionally, a mean score of 3.80 with an SD value of 0.91 illustrates that when IT students are studying to operate mobile learning systems, they feel confident in gathering information for mobile learning.

In essence, the result gotten from this finding is similar to that of Mahat el al (2012) which illustrates that students show a high level of interest towards m-learning. It is possible to conclude that IT students show a high level of interest when studying about m-learning systems and want to derive more knowledge on m-learning.

Table 4.7: IT students opinion on their knowledge of all the uncommon keys and capacities contained in an m-learning framework.

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 6	Strongly Disagree	2	1.0	3.74	0.90
	Disagree	17	8.5		
	Indifferent	51	25.4		
	Agree	92	45.8		
	Strongly Agree	39	19.4		

As can be seen from Table 4.7, over 65.2% of students showed high level of affirmation towards their level of certainty about realizing all the uncommon keys and capacities contained in an m-learning framework. However, despite majority of the students depicting high confidence levels towards their knowledge of special keys used in m-learning, 9.5% of students disagreed with this idea, while 25.4% remained

neutral. As a result, a total mean score of 3.74 with an SD of 0.90 was achieved which illustrates that when students make use of m-learning systems, they feel certain about realizing all the uncommon keys and capacities contained in a portable learning framework. It can be said that the students who supported this idea already have a solid understanding of m-learning systems and how they operate and therefore have a certain knowledge on the functionalities of some of the special keys.

Table 4.8: IT students opinion on knowing how an m-learning framework functions

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 7	Strongly Disagree	5	2.5	3.92	0.93
	Disagree	8	4.0		
	Indifferent	42	20.9		
	Agree	90	44.8		
	Strongly Agree	56	27.9		

In reference to Table 4.8, majority of the students show high level of self-assurance in their knowledge of how m-learning systems operate. As a result, 72.7% of students strongly affirm that they have solid knowledge of how m-learning systems operate. In opposition to this idea, 6.5% were of the fact that they do not know how m-learning systems function, while 20.9% remained indifferent.

Conclusively, mean scores of 3.92 with and SD of 0.93 was derived, which illustrates that when students are using m-learning systems, they feel positive about knowing how an m-learning framework functions. It can be said that IT students show high level of knowledge towards the operations of m-learning systems when they have an idea of how m-learning is used.

According to the results obtained in the self-efficacy sub-dimension, it can be deduced from the findings that IT students exhibit high level of confidence in carrying out basic m-learning operations, knowledge skill set in m-learning systems, communicating effectively with peers and instructors and operation and functionalities of m-learning systems. However, it should be noted that IT students need to familiarize themselves with the special keys adopted in m-learning systems and how they can be used effectively and efficiently to facilitate better learning.

The results obtained in this finding is dissimilar to the findings of Mahat et al (2012) study on an assessment of students mobile self-efficacy, readiness, and personal innovativeness towards mobile learning in higher education in Malaysia which suggested that students m-learning self-efficacy is said to be at a moderate level.

4.1.2 M-Learning Optimism of IT Students

In regards to the m-learning readiness of IT students, the m-learning optimism illustrates the confidence level of IT students when using m-learning systems based on 7 items.

Table 4.9: IT students opinion on learning through m-learning frameworks since they can learn at anytime

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 8	Strongly Disagree	5	2.5	3.87	1.04
	Disagree	15	7.5		
	Indifferent	48	23.9		
	Agree	66	32.8		
	Strongly Agree	67	33.3		

According to Table 4.9, majority of the students feel very positive towards using m-learning systems due to the fact that it provides flexibility in the learning time. 66.1% show high level of optimism in studying with mobile learning systems due to the fact that they are able to study anytime. However, 10% were in opposition of the idea that m-learning provides flexibility in learning time, while 23.9% remained neutral to the idea. Additionally, the mean score of 3.87 and an SD of 1.04 was calculated, which indicates that students are very optimistic in studying with m-learning systems because they can study at any time.

Similarly, the results gotten from this study is comparable with the findings of Choon-Keong, Ing and Kean-Wah (2013) study which indicates that m-learning provides a high level of flexibility in regards to the learning time of undergraduate students. In summary, when learners can study at any time they have a level of optimism towards learning thereby they can achieve more goals.

Table 4.10: IT students opinion on using m-learning frameworks to make them increasingly productive in their studies

	Statement	Frequency	Percent	Mean	Standard deviation
ITEM 9	Strongly Disagree	3	1.5	3.60	0.99
	Disagree	19	9.5		
	Indifferent	79	39.3		
	Agree	54	26.9		
	Strongly Agree	46	22.9		

In reference to Table 4.10, majority of the students feel very positive towards using m-learning systems in reference to the idea that it makes them more efficient when they

are studying. 49.8% were reported to have very high levels of positivity towards using m-learning systems to make them more efficient in their studies. However, 11% disapproved of the idea that m-learning makes them more efficient in their studies, while 39.3% were indifferent.

Furthermore, an arithmetic mean of 3.60 and an SD of 0.99 was calculated after validation of the results which indicates that students are neutral about the use of m-learning systems to make them more efficient when they are studying. Consequently the results of this findings is dissimilar to the finding of Mahat et al. (2012) which proves that when m-learning is used by students, their level of efficiency is very high.

Table 4.11: IT students opinion on using m-learning frameworks to enable them tailor things to fit their own requirements

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 10	Strongly Disagree	2	1.0	3.84	0.92
	Disagree	12	6.0		
	Indifferent	56	27.9		
	Agree	78	38.8		
	Strongly Agree	53	26.4		

As illustrated in Table 4.11, students perceive at a high rate that the use of m-learning systems can assist them in personalizing learning materials to match their academic needs. 65.2% of the respondents demonstrated high levels of optimism towards the use of m-learning systems to customize their study materials. Although the levels of optimism when using m-learning to personalize learning materials were high, 7% of the respondents had contradictory beliefs towards this idea, while 27.9% of the

respondents were impartial when it came to the use of m-learning systems to tailor instructional materials and time to match their personal requirements. Conclusively, mean values of 3.84 together with an SD of 0.92 was derived, which proves that students show high levels of optimism when m-learning is used to personalize study materials suitable to their personal requirements.

Furthermore, the findings of Wang, Shen, Novak, and Pan (2009) on their study of the effects mobile learning has on students countenance and knowledge and how the methods applied in m-learning systems can be tailored to fit the learning styles of students, were dissimilar with the conclusive findings of this research which proved that students agreed on a moderate level of the use of m-learning systems in customizing learning instruments to fit their preferences. Conclusively, it can be noted that most learners are very positive when it comes to using m-learning systems based on their own academic preferences and styles.

Table 4.12: IT students opinion on liking mobile learning systems

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 11	Strongly Disagree	4	2.0	3.90	0.96
	Disagree	12	6.0		
	Indifferent	44	21.9		
	Agree	82	40.8		
	Strongly Agree	59	29.4		

As illustrated in Table 4.12, the level at which students feel optimistic towards the use of m-learning systems is very high. 70.2% of the respondents are highly optimistic towards the use of m-learning systems. However, despite the high levels of optimism

displayed by users towards the use of m-learning systems, 8% were against the use of m-learning systems, and 21.9% exhibited indifferent characteristics towards the use of m-learning systems.

Furthermore, a mean value at 3.90 with an SD of 0.96 was achieved which indicates students are highly positive towards the adoption of m-learning systems. However, in the related research conducted by Park, Nam, and Cha, (2012), students were perceived to demonstrate moderate level of positivity towards the use of m-learning systems with a mean estimate of 5.04 and an SD value of 1.04 based on a 7 point Likert scale which is dissimilar from the findings of this research. It can be concluded that IT students show high levels of optimism towards the adoption of m-learning systems.

Table 4.13: IT students opinion on using m-learning frameworks to give themselves command over their learning time.

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 12	Strongly Disagree	2	1.0	3.71	1.00
	Disagree	27	13.4		
	Indifferent	45	22.4		
	Agree	80	39.8		
	Strongly Agree	47	23.4		

As illustrated in Table 4.13, majority of the respondents demonstrate high levels of optimism towards the use of m-learning systems to gain control of the time they spend when studying. 63.2% of respondents demonstrate a significant amount of support towards using shows the level at which students feel optimistic towards the use of mobile learning systems to gain control of the time they allocate to studying. However,

despite the high levels of optimism exhibited by students, 14.4% of respondents were against the idea of using m-learning systems to manage time allocated to studying, and 22.4% of the respondents were unbiased in their decision.

Consequently, a mean value of 3.71 and standard deviation were achieved, which indicates that students are highly optimistic towards the use of m-learning systems to gain control of the time they set aside for studying. Similarly, the findings of Hussin et al. (2012) in their study indicates high levels of optimism by students towards the use of m-learning systems to assist them in managing their resources and time. In conclusion, students show high levels of positivity towards learning when m-learning systems are used to make them more efficient in time management.

Table 4.14: IT students opinion on using the most up to date m-learning framework

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 13	Strongly Disagree	4	2.0	3.76	0.91
	Disagree	7	3.5		
	Indifferent	67	33.3		
	Agree	78	38.8		
	Strongly Agree	45	22.4		

According to Table 4.14, majority of the respondents demonstrate high levels of optimism towards the convenience of using the newest m-learning systems. Accordingly, 61.2% of the respondents were highly positive in the convenience offered by the latest m-learning systems. Despite the high levels demonstrated by majority of the students in favor of this idea, 5.5% of respondents were against the idea, while 33.3% unbiased with their opinion. Additionally, a mean value of 3.76 with

a standard deviation of 0.91 was achieved which is significantly high, indicates that students are optimistic towards the use of the latest m-learning systems to learn at their own convenience.

Table 4.15: IT students opinion on the use of m-learning frameworks to create more time to study

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 14	Strongly Disagree	5	2.5	3.85	1.05
	Disagree	18	9.0		
	Indifferent	45	22.4		
	Agree	68	33.8		
	Strongly Agree	65	32.3		

As indicated in Table 4.15, it shows the high levels of optimism achieved by students towards the use of m-learning systems in gaining more freedom when they study as a result of this, 66.1% of the respondents feel highly optimistic that when m-learning systems is used, they gain more flexibility when studying. Moreover, despite the high levels optimism achieved by majority of students, 11.5% of the respondents were of a different idea that they do not gain more freedom when m-learning systems are used, and 22.4% remained neutral to this idea.

Accordingly, mean values of 3.85 and standard deviation of 1.05 was achieved which is a significantly high value, this result indicates that majority of the students are highly optimistic towards the use of m-learning systems in granting them freedom when they study.

As stated in the results obtained in the optimism sub-dimension, it can be deduced from the findings that IT students exhibit high level of optimism towards m-learning systems and have strong support towards the changes mobile learning impacts on their learning process, which is similar to the findings of Shuib, Azizan and Ganapathy(2018) study on Mobile Learning Readiness among English Language Learners in a Public university in Malaysia. However, despite the high results obtained in this sub-dimension, the ability for mobile learning to make IT students more productive when learning ranked the least.

4.1.3 M-Learning Self-Directed Learning of IT Students

In respect to the m-learning readiness of IT students, the m-learning self-directed learning illustrates the capability of students to conduct their personal lesson guides and manage time efficiently.

Table 4.16: IT students opinion on directing their own learning progress

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 15	Strongly Disagree	2	1.0	3.94	0.94
	Disagree	17	8.5		
	Indifferent	31	15.4		
	Agree	92	45.8		
	Strongly Agree	59	29.4		

According to Table 4.16, majority of the students show high levels of indication on their ability to conduct and direct their own learning progress with 75.2% of respondents indicating high levels of optimism towards being able to evaluate their own study growth.

However, 9.5% were in disagreement of using m-learning systems in evaluating their personal study growth, while 15.4% remained unbiased. Furthermore, mean value of 3.94 and standard deviation of 0.94 which are significantly high values indicate that students are very confident and comfortable in using m-learning systems to direct their learning progress.

Table 4.17: IT Students Opinion on being able to carry out their own study plan

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 16	Strongly Disagree	3	1.5	3.87	0.93
	Disagree	12	6.0		
	Indifferent	48	23.9		
	Agree	83	41.3		
	Strongly Agree	55	27.4		

In reference to Table 4.17, a larger part of the respondents have positive attitudes towards having the ability to conduct their own lesson guides, with 68.7% of the respondents showing high levels of indication in being able to conduct their lesson plans on their own. However, 7.5% of the respondents disapproved of this idea indicating their disability to draw out their personal lesson plans by themselves, and 23.9% of the respondents remained neutral to their view points. Consequently, an average mean value of 3.87 with an SD of 0.93 which is relatively high, indicates that students are confident and comfortable in conducting their own lesson plans.

Table 4.18: IT students opinion on setting objectives and having high level of ambition when they learn

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 17	Strongly Disagree	3	1.5	3.92	0.93
	Disagree	11	5.5		
	Indifferent	45	22.4		
	Agree	83	41.3		
	Strongly Agree	59	29.4		

As indicated in Table 4.18, significant amount of students set goals in their studies with 70.7% of respondents strongly indicating their ability to set out goals and objectives when studying. Despite the fact that majority of the students are able to set out personal objectives when studying, 7% of respondents disapprove to the idea and indicate their disability to set goals for themselves when studying, while 22.4% of the respondents were indifferent. In addition, a mean value of 3.92 with a standard deviation of 0.93 was calculated which is a relatively high value that shows high level of indication in the students abilities to assign learning objectives and achieve them afterwards. Conclusively, it can be deduced that IT students are confident and comfortable in achieving the goals they set and have a high level of understanding in their studies.

Table 4.19: IT students opinion on managing time well

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 18	Strongly Disagree	12	6.0	3.48	1.12
	Disagree	26	12.9		
	Indifferent	55	27.4		
	Agree	69	34.3		
	Strongly Agree	39	19.4		

In reference to Table 4.19, majority of the students demonstrate high levels at which they feel comfortable with time management in their studies with 53.7% strongly acknowledging the fact that their time management skills were high . In opposition to this statement, 18.9% of the respondents signified that they were unable to manage time well, and 27.4% of the respondents remained indifferent. According to the response given by the students, a mean value of 3.48 with an SD of 1.12 indicates a moderate level of time management skills in the students. It can be concluded that IT students show a moderate amount of understanding when it comes to managing time effectively.

Table 4.20: IT students opinion on being self-taught and able to set aside learning time when studying or working

	Statement	Frequency	Percent	Mean	Standard Deviation
ITEM 19	Strongly Disagree	8	4.0	3.70	1.05
	Disagree	17	8.5		
	Indifferent	51	25.4		
	Agree	77	38.3		
	Strongly Agree	48	23.9		

As illustrated in Table 4.20, a significant amount of students demonstrate high levels of self-discipline while conducting learning, studying or working activities. In addition, 62.2% of respondents showed high levels of self-discipline while studying, working, and learning.

However, 12.5% of respondents were not in support of this idea and therefor indicated that they are not self-disciplined in carrying out certain activities, while 25.4% of respondents were of a neutral opinion. Conclusively, a calculated mean value of 3.70 with an SD of 1.05 denotes that when students are learning, they show a moderately high level of self-discipline when studying. It can be concluded that IT students demonstrate moderate levels of self-discipline while studying, working, and learning, which implies that they could set out a time to learn.

According to the results obtained in the self-directed learning sub-dimension, it can be deduced from the findings that IT students demonstrate high levels of positivity towards conducting learning experiences on their own. However, despite the high results obtained in this sub-dimension, level at which students manage time ranked the least which means that although the students show a high level of understanding towards conducting Self Directed Learning, they feel moderate about managing their time efficiently.

Consequently, due to the high levels of self-efficacy, optimism and self-directed learning found in IT students, it can be concluded that IT students demonstrate a significantly high level of readiness towards the use and adaptation of m-learning systems and are therefore ready to adopt the use of m-learning systems which is same as the findings of Abas et al (2009).

4.2 Relationship between Mobile Learning Readiness and Age of Students

ANOVA test was administered to determine and measure the effects of age on mobile learning readiness in respect to the different age groups (18-20, 21-25, 26-30 and 31+). However, mobile learning readiness did not differ significantly for the different age groups in all 19 items ($p>0.05$).

Conclusively, the results gotten from this finding indicate that the age group of IT students is not seen as a significant determinant of their mobile learning readiness. Hence, there no relationship exists between mobile learning readiness and age group of IT students groups(18-20, 21-25, 26-30 and 31+). Furthermore, the findings of this research was not the same as the findings of MacCallum and Jeffrey (2009) study which posited that respondents age group has a relationship with m-learning readiness in individuals.

4.3 Relationship between Mobile Learning Readiness and Gender of IT Students

In order to determine if the level of mobile learning readiness in IT students vary inevitably among genders, an independent sample t-test was organised in order to compare mobile learning readiness in female and male genders.

A significance difference does not exist in mobile learning readiness level of female and male students for all the 19 items. Furthermore, the results gotten from this finding indicate that gender is not seen as a significant determinant on the mobile learning readiness level of IT students', hence, no relationship exists between mobile learning readiness and gender of IT students. The findings in this research is different from the

findings of Trifonova et al (2006) which postulated that respondents gender has a relationship with m-learning readiness.

4.4 Relationship between Mobile Learning Readiness and Class Level of IT Students

For determining the connection between mobile learning readiness and class level, a One Way ANOVA test and a Post Hoc comparison were used to evaluate the impact of class level (1st year, 2nd year, 3rd Year, 4th year) on mobile learning readiness. As a result, the ANOVA table displayed that out of 19 items, a significance difference exists for only 3 items regarding IT students class level.

Table 4.21 shows the descriptive statistics table containing the frequency(N), mean(X), and standard deviation of Item 6 which shows the relationship between mobile learning readiness and class level.

Table 4.21: Descriptive statistics of mobile learning readiness depending on class level of IT students for item 6

Class Level	Frequency(N)	Mean(X)	Standard Deviation
1 st Year	75	3.65	0.98
2 nd Year	33	3.39	0.90
3 rd Year	43	4.00	0.79
4 th Year	50	3.88	0.80

Table 4.22 shows the One Way ANOVA table containing the sum of squares, standard deviation, mean square, F, and significance difference (p) of Item 6 which shows the relationship between mobile learning readiness and class level.

Table 4.22: One Way ANOVA for Mobile Learning Readiness depending on class level of IT students for Item 6

Variable Source		Sum of Squares	Sd	Mean Square	F	P	Significant Difference
Mobile Learning Readiness	Between Groups	8.40	3	2.80	3.58	0.01	3 rd – 1 st
	Within Groups	154.15	197	0.78			3 rd – 2 nd 4 th – 2 nd
	Total	162.55	200				

To find out the relationship between mobile learning readiness and class level, a One Way ANOVA test and Post Hoc comparison was administered to determine and measure the effects of class level on mobile learning readiness in respect to the different class grades (1st, 2nd, 3rd, and 4th Year). As indicated in Table 4.21, the arithmetic mean value of mobile readiness for varying class grades (1st, 2nd, 3rd, and 4th Year) for Item 6 proved dissimilar and also indicated in the p value section of Table 4.22, there is a significance difference of class level on mobile learning readiness of IT students ($p < 0.05$) for the 3 constraints [$F(3,197)=3.58, p=0.01$].

Accordingly, a post hoc test result for item 6 demonstrates that the mean value for 1st Academic year students' ($X=3.65$, standard deviation= 0.98) is similar to the one from 2nd Academic year ($X=3.39$, standard= 0.90). In addition, the mean value of 3rd Academic year students' ($X=4.00$, standard deviation= 0.79) is similar to 4th year students ($X=3.88$, $SD=0.80$), and it has a significance difference with the mean of both 1st and 2nd year students. Conclusively, the mean value of 4th year students ($X=3.88$, $SD=0.80$) is similar to the mean value of 1st year students, also it has a significance difference with 2nd year students.

Table 4.23 shows the descriptive statistics table containing the frequency(N), mean(X), and standard deviation of Item 13 which shows the relationship between mobile learning readiness and class level.

Table 4.23: Descriptive statistics of mobile learning readiness depending on class level of IT students for item 13

Class Level	Frequency(N)	Mean(X)	Standard Deviation
1 st Year	75	3.85	0.90
2 nd Year	33	3.30	0.85
3 rd Year	43	3.80	1.04
4 th Year	50	3.90	0.76

Table 4.24 shows the One Way ANOVA table containing the sum of squares, standard deviation, mean square, F, and significance difference (p) of Item 13 which shows the relationship between mobile learning readiness and class level.

Table 4.24: One Way ANOVA for Mobile Learning Readiness depending on class level of IT students for Item 13

Variable Source	Sum of Squares	Sd	Mean Square	F	P	Significant Difference	
Mobile Learning Readiness	Between Groups	8.57	3	2.86	3.61	0.01	1 st – 2 nd
	Within Groups	155.97	197	0.79			3 rd – 2 nd 4 th – 2 nd
	Total	164.54	200				

To find out the relationship between mobile learning readiness and class level, a One Way ANOVA test was administered to determine and measure the effects of class level on mobile learning readiness in respect to the different class levels(1st Year, 2nd Year, 3rd Year, 4th Year). As indicated in Table 4.23, the arithmetic mean value of

mobile readiness for varying class grades(1st,2nd, 3rd and 4th Year) for Item 13 are different and also indicated in the p value section of Table 4.24., there is a significance difference of class level on mobile learning readiness of IT students($p < 0.05$) for the 3 constraints [$F(3,197)=3.61, p=0.01$].

Subsequently, as illustrated in Table 4.23, and Table 4.24 and the Post Hoc test result for item 13, it demonstrates that the mean score for 1st year students ($X=3.85$, standard deviation=0.90) is similar to 3rd year students ($X=3.80$, standard deviation=1.04), however, it varied significantly from the 2nd year students ($X=3.30$, standard deviation= 0.85). Furthermore, the mean of 3rd year students ($X=3.80$, standard deviation=1.04) had a significance difference with 2nd year students ($X=3.30$, standard deviation= 0.85). In addition, the mean value of 4th year students($X=3.90$, standard deviation=0.76) is similar to both the mean values of 1st year ($X=3.85$, standard deviation=0.90) and 3rd year students ($X=3.80$, standard deviation=1.04), however, there is a significance difference between the mean values of 4th year students ($X=3.90$, standard deviation=0.76) and 2nd year students ($X=3.30$, standard deviation= 0.85).

Table 4.25 shows the descriptive statistics table containing the frequency(N), mean(X), and standard deviation of Item 17 which shows the relationship between mobile learning readiness and class level.

Table 4.25: Descriptive statistics of mobile learning readiness depending on class level of IT students for item 17

Class Level	Frequency(N)	Mean(X)	Standard Deviation
1 st Year	75	3.84	1.00
2 nd Year	33	3.55	1.03
3 rd Year	43	4.00	0.87
4 th Year	50	4.20	0.70

Table 4.26: One Way ANOVA for Mobile Learning Readiness depending on class level of IT students for Item 17

Variable Source	Sum of Squares	Sd	Mean Square	F	P	Significant Difference	
Mobile Learning Readiness	Between Groups	9.30	3	3.10	3.72	0.01	3 rd - 2 nd
	Within Groups	164.26	197	0.83			4 th - 1 st
	Total	173.56	200				4 th - 2 nd

To find out the relationship between mobile learning readiness and class level, a One Way ANOVA test was administered to determine and measure the effects of class level on mobile learning readiness in respect to the different class grades (1st, 2nd, 3rd and 4th Year). As indicated in Table 4.25, the arithmetic mean value of mobile readiness for varying class (1st, 2nd, 3rd and 4th Year) for Item 17 are different and also indicated in the p value section of Table 4.26, there is a significance difference of class grade on mobile learning readiness of IT students ($p < 0.05$) for the 3 constraints [$F(3,197)=3.72, p=0.01$].

In addition to this, a Post Hoc test result demonstrates that the mean score for 1st year students ($X=3.84, SD=1.00$) was similar to 2nd year students ($X=3.55, SD=1.03$). Moreover, the mean value of 3rd year students ($X=4.00, SD=0.87$) was similar to 1st year

students ($X=3.84$, $SD=1.00$), however, the mean values for 3rd year students ($X=4.00$, $SD=0.87$) differed significantly with 2nd year students ($X=3.55$, $SD=1.03$). Conclusively, it was noticed that the mean values for 4th year students ($X=4.20$, $SD=0.70$) was similar to the mean of 3rd year students ($X=4.00$, $SD=0.87$), also, it had a significant difference between mean values of both 1st year students ($X=3.84$, $SD=1.00$) and 2nd year students ($X=3.55$, $SD=1.03$).

In addition, out of 19 items, 16 items had no significant difference among the class levels while 3 items had a significant difference between class level of IT students. In reference to the 3 items with significant differences, 4th year IT students had highest mean values and 2 year IT students had the lowest mean values.

In relation to these findings, the results indicates that there is a significance difference of class level on mobile learning readiness. Respectively, the results suggest that class level of IT students is seen as a significant determinant of their mobile learning readiness, hence, a relationship exists between mobile learning readiness and class grades of 4th year IT students hence proving that 4th year IT students are more ready for mobile learning. It can be said that previous knowledge of m-learning systems can be seen as an important factor influencing the mobile learning readiness, hence, since 4th year IT students were said to have better understanding of mobile technologies and more exposure due to their class levels, it was expected that they had the highest mean scores. Additionally, the results gotten from this findings is similar to the findings of Nwagwu and Odetumibi (2011) which indicates that class level is said to have significant effect on m-learning in individuals.

Chapter 5

CONCLUSION

This study was conducted to examine the readiness level of IT students towards mobile learning and how it can differ according to age, gender, and class level. Quantitative research and survey method Mobile Learning Readiness (MLR) Scale was used for data collection tool which was applied in the school of Computing and Technology. The study group of this research comprised of 201 registered bachelor students enlisted in the IT department at EMU in Fall 2018-2019 semester who voluntarily participated in the survey. All data collected was analysed using descriptive analysis techniques. Frequency(f), percentage, T-test and one-way ANOVA was used for analysing the data.

Descriptive analysis and frequency was used to show the derived result in reference to each posed research question variable while the T-test and ANOVA was used to analyse data that deals with only two variables like the relationship between gender and mobile learning readiness in the case of T-test and more than two variables such as the relationship between age and mobile learning readiness, also the relationship between class levels and mobile learning readiness in the case of ANOVA.

The findings derived from this research illustrates that IT students have high level of readiness towards the adoption and use of m-learning systems with reference to their self-efficacy, optimism, and ability to conduct self-directed learning.

As stated in this research, IT students m-learning readiness is not different depending on the age of the participant, hence proving that age is not seen as a significant factor and therefore has no relationship with the mobile leaning readiness level of IT students.

Furthermore, the research also proved that IT students m-learning readiness is also not different depending on the gender of the participant, thereby proving that male and female opinions have no relationship with IT students mobile learning readiness.

However, the research findings suggested that the mobile learning readiness is different based on the class level of the students. The findings showed that there was a relationship between class levels of 4th year IT students with their mobile learning readiness level.

In conclusion, result of this study indicates that, the IT students in Eastern Mediterranean University show high levels of knowledge and readiness towards mobile learning systems in reference to their level of self-efficacy, optimism and self-directed learning, and no relationship exists between age and gender with the IT students mobile learning readiness, however, it was discovered that there is a difference between the class level of 4th year students and mobile learning readiness of IT students which demonstrates that 4th year students demonstrate high levels of readiness for mobile learning.

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APPENDICES

Appendix A: Demographic Survey

Mobile Learning Readiness (MLR) Scale

Dear Student,

To answer the questions in this section please, please put a tick“√” in the appropriate box that best suits the answer you have selected.

Note: Only one answer can be selected for a question.

PART 1: Demographics

1. Gender:

Female

Male

2. Age range:

18-20

26-30

21-25

31+

3. What is your level of study?

Bachelors

Masters

4. What is your academic class level (grade)?

1st Year

3rd Year

2nd Year

4th Year

5. Do you own a personal mobile device?

Yes

No

6. Do you have access to internet connection?

Yes

No

7. How many hours do you spend on your mobile device?

Less than 1 hour

6-10 hours

2-5 hours

11 hours +

8. Have you heard of mobile learning before now?

Yes

No

9. Have you used mobile learning system before?

Yes

No

Appendix B: Mobile Learning Readiness Scale

The following questions stated below will be answered with the given 5 point Likert scale, with 5 specifying that you Strongly Agree(SA), 4 specifying that you Agree(A) with the idea, 3 specifying that you have an Indifferent(I) opinion , 2 specifying that you Disagree (D) and 1 stating that you Strongly Disagree(SD) with the idea.

		SA	A	I	D	SD
1	I feel certain about conducting the fundamental elements of mobile learning frameworks					
2	I feel certain about my insight and abilities of m-learning frameworks					
3	I feel positive about utilizing m-learning frameworks to viably communicate with others					
4	I feel sure about utilizing the web (Google, Yahoo) to discover or assemble data for m-learning.					
5	I feel certain in learning to work with m-learning systems.					
6	I feel certain about realizing all the uncommon keys and capacities contained in an m-learning framework.					
7	I feel positive about knowing how an m-learning framework functions.					
8	I like learning through m-learning frameworks since I can learn at anytime					
9	M-learning frameworks make me increasingly productive in my studies.					
10	I like m-learning frameworks that enable me to tailor things to meet my very own requirements.					
11	I like mobile learning systems.					
12	M-learning frameworks give individuals more command over their learning time					
13	The most up to date m-learning framework is considerably more helpful to utilize					
14	M-learning frameworks create more opportunities for me to study					
15	I can direct my own learning progress.					
16	I carry out my own study plan.					
17	When I learn, I set objectives and have a high level of ambition					
18	I manage time well.					

19	When I am learning, studying, or working, I am self-taught and think that its simple to set aside learning time.					
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Appendix C: Consent Form

Dear Students,

I am currently a masters student in the Information Communication Technology in Education program in Department of Computer Education and Instructional Technology currently undergoing my thesis on the Mobile learning readiness level of IT students in Eastern Mediterranean University.

The aim of this thesis survey is to identify your level of knowledge about mobile learning and also determine your readiness level for adaptation of mobile learning.

The aim of my thesis is as follows:

1. What is the readiness level of IT students for mobile learning?
 2. Is there any relationship between the mobile learning readiness level of IT students and age?
 3. Is there any relationship between the mobile learning readiness level of IT students and gender?
 4. Is there any relationship between mobile learning readiness and student class level?
- M-learning or mobile learning can be defined as the “learning across multiple contexts through social and content interactions using personal electronic devices such as smartphone, laptops, netbooks, and media players”. In essence, mobile learning can occur anywhere regardless of the physical location (inside or outside the confinement of a classroom).

- The following data that will be derived from this scale will be used only in determining your mobile learning readiness and will not be applied to a different research.
- Please, sincere answers are required and it is of major importance that all questions and blank spaces be filled in reference to the importance of this thesis.

The questionnaire consists of two parts and will take approximately 10 minutes of your time to answer all the questions. After reading the questions carefully, please tick the most appropriate box. The time allocated is for you to fill out this survey and honestly. You are free to withdraw from the study at any time. All data you have provided will be kept confidentially and will only be used for research. For further information or complaint, you can contact me or my thesis supervisor without any hesitation. If you voluntarily agree and give your consent in participating in this questionnaire survey, please fill and sign the appropriate fields below.

Thank you for your time and participation.

Bolouere Kikanwa Afenia
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I have read and understood this form. I have asked my necessary questions and received answers to my questions. I accept to participate in this survey voluntarily.
Name- Surname:

Date:

Signature:

Appendix D: Ethics Committee Approval Letter



**Doğu Akdeniz
Üniversitesi**
"Uluslararası Kariyer İçin"

**Mediterranean
University**
"For Your International Career"

gazimagusa, north cyprus,
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Tel: (+90) 392 630 1995
Faks/Fax: (+90) 392 630 2919
bayek@emu.edu.tr

Etik Kurulu / Ethics Committee

Reference No: ETK00-2018-0262
Subject: Application for Ethics.

15.10.2018

RE: Bolouere Kikanwa Afenfia
Faculty of Education

To Whom It May Concern:

On the date of **15.10.2018**, (Meeting number **2018/60-11**), EMU's Scientific Research and Publication Ethics Committee (BAYEK) has granted, **Bolouere Kikanwa Afenfia**, from the to Faculty of Education pursue with her Ms. thesis work "**Mobile Learning Readiness Level of I.T. Students: An Example of EMU**" under the supervision of Assoc. Prof. Dr. Ersun İşçioglu. This decision has been taken by the majority of votes.

Regards,

Assoc. Prof. Dr. Şükrü Tüzmen
Director of Ethics Committee

ŞT/ba

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Appendix E: Originality Report

2/13/2019

Turnitin Originality Report

Turnitin Originality Report

Thesis_V02 by Bolouere Kikanwa Afenia

From Bolouere Kikanwa Afenia (SCHOOL OF COMPUTING AND TECHNOLOGY)

Processed on 17-Jan-2019 10:18 +03
ID: 1065149904
Word Count: 17703

Similarity Index
12%
Similarity by Source

Internet Sources: 9%
Publications: 6%
Student Papers: 3%

sources:

- 1% match (student papers from 02-May-2016)
Class: SCHOOL OF COMPUTING AND TECHNOLOGY
Assignment:
Paper ID: [668521439](#)
- < 1% match (publications)
[Hsin-Hui Lin, Shinjeng Lin, Ching-Hsuan Yeh, Yi-Shun Wang, "Measuring mobile learning readiness: scale development and validation", Internet Research, 2016](#)
- < 1% match (publications)
[Rhonda Christensen, Gerald Knezek, "Readiness for integrating mobile learning in the classroom: Challenges, preferences and possibilities", Computers in Human Behavior, 2017](#)
- < 1% match (Internet from 25-Jan-2017)
http://ite-c.net/publication_folder/etc/dubai_conferences2016.pdf
- < 1% match (Internet from 14-Nov-2017)
<https://link.springer.com/content/pdf/10.1007%2F978-3-662-44188-6.pdf>
- < 1% match (Internet from 06-Jul-2016)
<https://issuu.com/iafor/docs/iafor-education-journal-special-edi>
- < 1% match (Internet from 17-Dec-2018)
http://aaonline.org/Resources/Documents/Southern%20Region/Full%20Program_%20Southern%202013.pdf
- < 1% match (publications)
[David De Jona, Trent Grundmeyer, Chad Anderson, "Comparative Study of Elementary and Secondary Teacher Perceptions of Mobile Technology in Classrooms", International Journal of Mobile and Blended Learning, 2016](#)
- < 1% match (student papers from 29-Jan-2018)
[Submitted to Mount Kenya University on 2018-01-29](#)
- < 1% match (Internet from 13-Jan-2016)
<http://i-rep.emu.edu.tr/8080/spuif/bitstream/11129/184211/KayaOmer.pdf>
- < 1% match (Internet from 16-Nov-2018)
<http://etd.lib.metu.edu.tr/upload/12617045/index.pdf>
- < 1% match (Internet from 09-Jun-2016)
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