The Role of Information and Communication Technology in Education: Case of Eastern Mediterranean University

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ABSTRACT

Information and communication technology (ICT) is playing very important role in today Education. This main aim of this study is to investigate the role Information and Communication Technology in education in order to achieve better teaching and learning environment for the students. However, to reach that end, the researcher found out statistically how ICT has really impacted the student's Educational life in Eastern Mediterranean University.

Questionnaire was used for the experimental to accomplish this study. The groups are randomly selected consisting 197 participants at the Eastern Mediterranean University respectively. Data were analyzed using frequencies, Anova and T-test. The results showed that Using ICT in education makes school work more flexible. Students especially the third year students agreed ICT help them to do their work faster and better. The result of the study has showed that there is statistically significance difference at the level (0.05 level) of how students use Information and Communication Technology in their studies. The Students studying information Technology faced fewer problems than the students in other fields.

Keywords: Distance Education, online learning, Information and communication technology, social networking, learning systems

ÖZ

İletişim ve Enformtik (ICT) Teknolojisi bugünün eğitiminde çok önemli rol oynar. Bu çalışmanın ana araştırma konusu ICT teknolojisinin eğitimde oynadığı rolü araştırmaktır. Araştırmacı, burda ICT nin Doğu Akdeniz Üniversitesindeki öğrencilerin eğitim hayatlarını nasıl etkilediğini istatistiki değerlerle bulmaya çalışmaktadır.

Bu araştırmada gerekli veriyi elde etmek için, Doğu Akdeniz Üniversitesinde okumakta olan, gelişi güzel seçilmiş, 197 öğrenci üzerinde bir anket uygulanmıştır. Elde edilen verilerin analizi için Frekans dağılımları, Anova ve T-testi kullanılmıştır. Elde edilen veriler ve analizleri doğrultusunda görülen o ki, ICT kullanımı öğrencilerin okul çalışmaları üzerinde daha olumlu ve esnek çalışma olanağı sağlamaktadır. Özellikle üçüncü sınıf öğrencileri ICT nin çalışmalarında çok yardımcı olup daha iyi ve hızlı iş çıkartmalarına yardımcı olduğunu bildirmişlerdir. İstatistiki analize dayalı olarak bu çalışmanın 0.05 seviyesinde öğrencilerin ICT kullanımlarındaki önemli fark görülmektedir. Araştırma aynı zamanda, ICT ana bilim dalında ki öğrencilerin bu konuda daha az problemle karşılaştığını da göstermiştir.

Anahtar Kelimeler: Uzaktan Eğitim, online öğrenme, bilgi ve iletişim teknolojileri, sosyal ağlar, öğrenme sistemleri.

DEDICATION

I dedicate my dissertation work to my wonderful lovely family and friends. My utmost gratitude goes my loving parents, Mr. and Mrs. Bakare who's their words of encouragement has really inspired me to push ahead despite the challenges encountered along the way.

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Chapter 1

INTRODUCTION

ICT which stands for Information and Communication Technology refers to the technology which is used to organize communication and information. ICT is similar to Information Technology, but its main primary focus is on communication technologies. These are the use of Internet, wireless networks, cell phones, and other communication mediums. ICT have been playing a vital role in society today because it is used to refer to the convergence of audio-visual, networks with Computer Networks. Information and Communication Technology has an impact in almost every aspect of our lives today, from working to socializing, learning to playing.

1.1 Purpose of the Study

This paper will focus on the impact of Information and Communication Technology in Education. This basically refers to teaching and learning using Technology. Some people do not believe ICT plays a vital role in education. For example, take a look at when there is no projector in a communication or a Photographic lesson, how you think the student will be able to follow the teacher without an illustration or without a picture to show the kind of things they need to do when designing with Photoshop. ICT have been playing a significant and positive impact in education. The research purpose is to provide a more concrete detailed fact of the use of ICT in education. I will be listing various use of ICT in education. Information and Communication

Technology is used in education in terms of social media skills, the responsible use of internet and participation.

Before I go further I should define what a school is. A school can be defined as a place of learning in which knowledge is impacted into the lives of individuals. With the ever increasing pursuits for knowledge, the technology assists in the learning of the individuals with the use of technology. ICT in education can also be as E-learning which has made possible in such a way that students are able to study online. The time in which the teacher and the students spend together is limited buts as a result of technology use in education, Students can get access to the teacher's course materials, also on the internet, there is a wide access to information that could enlighten a person's with the introduction of sophisticated software such as Mathlab, Solidworks, AutoCAD and so on. For example, the engineering drawings and analysis have been made so simple as an engineering students need to draw with conventional methods of using pencil and white paper which is time consuming. Therefore, student's projects are submitted at faster rates and with optimum accuracy.

The information age has really changed the way young people communicate, network, access data and the way they learn. Young people are now the most populated ones on the internet today and they access is through a diversity means such as computers, TV and mobile phones. ICT help to improved student learning and better teaching method for the lecturer. As the technology is becoming more and more embedded in our culture today, it is now a necessity to make available for the learners with the relevant and contemporary experiences that allow them to successfully engage with technology and prepare them for life after school and also

enables the student to be more active in their learning experience. Though it is not all countries have really integrated ICT in schools or education. Some countries have integrated ICT into their system and have been using it effectively which helps in the teaching and the learning aspects while in other countries, schools or institutions have just stated or are still yet to implement the use of ICT into their system effectively. ICT has been producing dynamic results in the education which gives the teachers and the students more opportunities to conform the learning and teaching to individual needs. Information and Communication Technology can also refer to the use of computer and internet connections used to handle and communicate information for teaching (Fisseha Mikre, 2011). ICT in education can be in form of E-learning which is the use of computer and internet to deliver materials for learning. Several studies reveal that students using ICT facilities mostly show higher learning gains than those who do not use (fisseha Mikre, 2011). ICT contribute to the constructive of learning which helps the teacher and the students to improve more in activities for example, the discussion forum which enable the students to discuss with themselves online and also have the opportunity to discuss with the teachers. It is important for the all the teachers to have the necessary knowledge and skills to integrate ICT in their daily ability to improve students digital competence (Patricia Wastian, Roger Blamire, Caroline Kearney, Valerie Quiltre, Eva Van DE Gacr & Christain Monseur, 2013). Using ICT in education has enabled the personalized learning style for students by providing the challenge required to keep the learners engage and empower them to reach their goal. Students can learn place of interest (can be as distance learning), learning style (e.g. learning at home). ICT has brought so many changes in how the lectures teach and how the students learn which can be as an unmeasurable to the teacher's outcomes. This helps to design and reach

educational activities, communication between students, teachers, and community. Teachers are able to create interactive classes and make the education more convenient and satisfaction, which could improve student presence and make the focus on the attention. Teachers can also easily explain a composite instruction and ensure students' understanding. This can be the use of Moodle (A learning management system) forums where teacher can post something and the student can view and also communicate back to the teacher. ICT also provides greater community involvement of the student learning by school website, blogs, emails, and phone messages etc. which help them to view or participate in their local educational system. Information and Communication Technology helps the school to perform excellently, it gives sound education investment which makes both the teacher and the students to benefits in the use of ICT. ICT can be in term of a collaboration learning whereby it encourages interactivity and the understanding between students and the teachers, Its helps the students and teachers to understand themselves more, making them improve more in their communication skills and the global awareness. ICT also provides greater way to improve academic reporting, data can be analyzed like achievement of the students and teachers, grading of the student performance.

1.1.1 How is ICT used in Education

In Education, Information and Communication Technology is use in so many ways, for example it is been used to teach students in acquiring important Information and Communication Technology skills which help them be effective and increase their knowledge. ICT is also used in education to administer and control the school systems for both students and all the workers in the school. Information and Communication Technology is also used in Education as e-learning which is a form of online web-based learning where students do not have to physically attend lectures

or classes but are connect to their lessons through the use internet, intranet or extranet. ICT is also used in schools to keep the information and records of the students and also the attendance records. Information and Communication Technology can be used in schools to reduce the teachers work load, for example when students submit their assignments to the teachers and the teachers can use the computer to evaluate the students assignment e.g. marking of the shading sheet. Computers are very useful in teaching the students and training the teachers on new skills. ICT helps to enhance social skills whereby students are able to communicate to each other especially for those that are shy, ICT help them to communicate in a more convenient environment like a chatting room, forum, and discussion group and so on. Using ICT in education, teachers can easily use images to teach and improve the retentive memory of students.

Using Information and Communication Technology in education, it plays a very significant part in both the teachers and the student's aspect in education which improves student attendance and concentration in school and also helps the teachers to be able to create an interactive class and make the lessons more interesting and enjoyable for the students.

1.1.2 Does ICT Help the Students to Learn Better

ICT plays a significant role in helping the students to learn better, it helps them in the improvement and the functionality of computer tools e.g. the computer interface and the use of computer, which influence the interest and value of the use of computer among the students. The more the students become more familiar with the computer, the more the potential for the educational use become more they want to learn. Due to some students who are disabled or have difficulty with writing, reading and so on,

the use of ICT support them more for example, the students who are not able or who find it difficult to write, using keyboard can be useful to do their work. And also for the students that have visual problem, the use of ICT helps them to change the visual view for them to see better or read better by changing the color screen fonts, Icon menus, sizes. And also for the students who cannot hear, through the use of ICT in education, they can read or communicate with images and symbols which makes them understand the meaning of texts.

Information and Communication Technology helps the students to learn better and faster, whereby it provides the students who have behavioral problems with educational games to motivate the students to engage with learning. Information and Communication Technology helps the students to take control of establishing their understanding, gain new cognitive skills and making them independent in their style of learning. It helps for better communication between the students and even the teachers. For example, using Moodle forum for discussion, students can communicate with each other, share educational ideas to improve their knowledge. Information and communication Technology also helps the students to store or retrieve information. For example, when a student's finishes his or her project, the project can be save on a CD-ROMs which makes the student to also backup their files to retrieve the information back. Students also use some series of software in part of their school work for example, students who have a lot to write, instead of writing so much on paper, ICT provides and an alternative way using Microsoft WordPad to type which also can correct the incorrect spellings of the words typed.ICT also helps the student to learn better using video conferencing, this can be

in case of distance learning whereby the students can do video conferencing with the teachers to learn and discuss about a course face to face on video conferencing.

1.1.3 Are there Any Challenges

Though, Using Information and Communication Technology in education plays a very significant role in education but still, there are some challenges in some aspects. The cost of the equipment can be a challenge when establishing the use of ICT in education. Setting up the technological equipment can cost so much though it has advantages but it cost a lot of capital to implement the effective use of ICT in education, it is very expensive. Sometime it is hard for the teachers to teach with ICT due to lack of training. If a teacher does not have an experience of the software and she needs to teach the students with the software, there is no way that both the teacher and students will gain anything in the activity. Another challenge is that some students do not have the confidents when associating with their fellow students or with the teachers, they use either online chat room to communicate and so on but it is not a good idea for the students to remain unconfident so using ICT this way is a part of challenge student can face when learning with Information and communication Technology.

1.1.4 Will it change anything if you terminate the role of ICT in education

There will be huge change if the use of Information and Communication Technology no longer active in education especially in this 21th century. ICT has introduced or has made possible for students to use computer for reading. For example, the students who read electronic books will have to go back to libraries to start reading huge amount of books on paper if ICT no longer exist in education. Students have to back to the conventional way buy storing books in library. Also if there is no ICT in education, there will be no communication between the students anymore. For

Example students won't be able to chat with other students or the teachers online anymore, they will have to meet themselves physically, there will be no discussion group online, teacher's won't be able to post materials online for the students to use, students who do not have confidents in associating with others cannot express themselves online if there is not chat room or discussion group online. Additionally, teachers will have to go back to chalk board if there is no electronic or smart board in classrooms. It is not a good idea at all to terminate the use of Information and Communication Technologies in education.

1.2 Research Questions

This thesis discusses the roles of ICTs, the promises, and key challenges of integration of ICT into education systems. The review attempts in answering the following questions:

1. How is ICT used in education?
2. Does ICT help the students to learn better?
3. Are there any challenges?

Will it change anything if you terminate the role of ICT in education?

1.3 Assumptions

The following points are the basic assumptions used to carry out the study

- Information and Communication Technology play a very sensitive part and it's open to potential problems in Education.
- Eastern Mediterranean University is a typical university sharing common features with other universities using Information and Communication Technology in their program.

1.4 Limitations of the study

The following are the Limitations of the study:

- The total population of Eastern Mediterranean University is 16,000 but there were just 197 who participated in the complete study in which 29 participants are just graduate student while rest are undergraduate students.
- The participants of this study are randomly selected in the university

1.5 Definition of terms

Education: Education can be seen as a process of where by a child or an adult gains knowledge, skills, good attitudes, experience. Education makes person refined, civilized and educated. It is a chance giving to everyone to know better, do better and do better.

Information and communication technology: Information and communication Technology is the combination of technological tools and resources used to communicate, disseminate, store and manage information. The technological tools include internet, computer, television, radio, hardware, software, Telephone etc.

Distance learning: Distance education is way of learning far away from the school where students do not learn in face-to-face with the instructor. This makes school work easier for students because students can work on their own, at any time and place.

Online learning: Online learning can be seen as a type of learning using the internet and computer to learn. This learning can be as an online discussion board, forums,

Moodle, Edmodo etc. Online learning offers flexibility in education and might not necessary need to be in a physical classroom. It can be carried out at any location.

Social networking: Social network is the use of internet-based programs to make connection with classmates, friends, and families' etc. users can communicate freely without stress. Social networking can be seen as an environment where the users are allowed to be part of a visual community. Users can share information between themselves, send messages to each other directly. Examples of social networks are Facebook, LinkedIn etc.

Learning systems: Learning systems are software applications used to implement a learning process. It provides the students with the ability to use the interactive functions such as discussion boards, messages and forums. It is also an environment which helps the teachers to deliver course contents, monitor the students' participation and also evaluate the students' performance.

Chapter 2

LITERATURE REVIEW

Technologies specifically the communication tools, provides teachers and students with so many interesting tools that can be used to advance the teaching and learning process. This tools claims to help the instructors to have more advantage of using technology in teaching and also support the students to learn better and faster.

2.1 Distance Education

John T. E. Richardson (2006) in his research, he examines the demographic features, opinions and behavior. He also evaluates the result which he mainly investigates the connection between opinions and study behavior. The outcomes support the impression that the differences in learning manners leads to differences in which the learning environment is professed**.** This causes direct effects on the manner in which students study.

Qinglong Zhan & Lin Zhang (2011), in their study aimed at defining the background of studying approaches, study behavior, abilities acquisition, Outcome of education, and learning progress. Furthermore, assessment in distance Education is still weak. Nothing is adequate yet in showing the learners subjectivity and creativity in distance education.

Richard E. West (2011) did a research, on the Effects of distance education of the teachers and students performance. There are several issues affecting the learner's inspiration in distance education which one of it is the self-directed (independent) learning. Students can distinguish and organize the aim of their learning, lesson plan and put effort when they self-manage. When students self-monitoring their thought, they identify and govern their internal perceptive strategies.

According to Craig Locatis et al (2011), conducted research and they recommend that presence of sensation can completely alter the learning effects and the learner's gratification. Their research h evaluate these results and the teaching and technology use in distance education. The technology used is videoconference webcast. The Authors detected that the sensation of presence is the utmost when learners are together physically and it's more advanced with video-conferencing since the communication is more symphonic when communicating face-to-face. They also proposed that the outcomes of learning, assessments of education and technology will be preferable with greater degrees of presence. Nevertheless, in distance education, the student's performance is better when communication between the teachers and the students are two-ways either through the use of cellular phone or video-conferencing than when classes are broadcasted in one-way either on radio or Televisions.

Angela Owusu-Ansah et.al (2011), emphasized in their study that several institutes are still doubting about the employment of distance education due to some excessive issues such as capital, availability, Department concerns, state orders, and academic organizational actions. Among several schools, costs delay the development the

most. The more distance learning delivery systems become complex and costly, the more the learning becomes inaccessible to the low income class of society.

Mahnaz Fatemi Aqda et al. (2011) in their study "The impact of constructivist and cognitive distance instructional design on the learner's creativity", examined the effect of distance learning, concerning constructivism and cognitive, on the students' creativeness. They backing the impression that certain requirements need to be meet in order to be successful in distance learning, like some definite educational design policies, communications, and abilities, that is suitable for that specific features of distance learning courses and programs. Additionally, a hypothetical educational plan base is also crucial. In order to acquire an operational training in distance learning. Even Moore and Thompson (1990; cited in Aqda M.F. et al. 2011) and mentioned that "It is a must to approve that distance learning is not basically totaling a new communications technology to the current educational institute. Opposable, several explanatory, instructional, and philosophical glitches can have effect from students they are separated from the teachers forever".

M. Oteng-Ababio (2011), in his study, his result revealed that learners do have optimistic opinion of the worth, contentment and flexibility of the electronic learning platform, but have a bad approach as regards to examination related issues. This are mainly caused by the factors such as unwell delivered and unwell revised modules as well as unwell prepared examination plans. The research praises the employment of electronic arbitrated facilities as one of the major methods of building the intentions of Distance learning a reality.

Hasan Karal et al. (2011) in their research study, try to define the perceptions of students taking synchronous distance education classes by means of video conferencing in distance learning courses. They used a qualitative research approach, a scale sampling, a qualitative research method, and the data obtained was based on semi-structured interviews and observation results. From the results, it was clearly visible that the students' perceptions of the courses changed during and at the completion of the course. They discovered that the learners had no adequate material prior to take part in the online lectures but that for the period of the course progressed, student perception changed and they got a more clear idea about the opportunities that a synchronous distance education can provide them. They pinpointed the most important problem in synchronous distance education to be the connection and audio problems. Besides, they started getting bored of the course due to the limited camera angles. It was also recommended that these stalled the steadiness of the courses which leads to interruption. Other technical difficulties stated such as instructor, environment, distance, lesson type and duration were associated with the issues. For that reason, they came up with some solutions: Firstly, to propose an orientation erstwhile to registration, for it to eradicate learners prejudices and confusions before the lessons starts. It may also be possible to minimize problems such as screen freeze, break in sound, echo and the eye contact problem resulting from low screen resolution by having a technician present in the distance learning classroom. Distance education teachers should choose the educational methods and techniques in which they can activate the students. Moreover, students should have the opportunity to meet the teacher outside the course hours in order to ask any questions and chat with the teacher.

Ilker Yengin et al. (2011) in their study, their perception is that full understanding of the use of Technology innovations in distance learning and their diverse features can support to achieve a better result. They propose that it is essential to be aware of the benefits of technology comparing each other. Hence, they make several communication media comparison studies to discover each benefit so to support in speeding up the process of making choices about "which technology is more preferable?" Relative revisions for distance learning are important to define these problems for it make the decision procedure effective irrespective of the abilities of making errors. So to eradicate any fault in this revision, five of the topmost important errors scholars made in writing and deliberating distance education research in technology or media studies are strong-minded. The study stabs to aid the folks in charge of policy making of distance learning, distance education scholars and teachers by enlightening them the likely errors in contrast studies so as to support in making their decisions more perfect when employing distance-learning solutions in their institutes.

Dayanand Thangada (2010), in his paper, point at identifying the factors influencing distance education. These are the focal part obstructing factors he established. Distance faculty capabilities, shortage of release time, and absence of faculty teaching and size of classes. The amount of time spent on the course development did overshadowed and negated the amount of time that can possibly be dedicated to researching. He also argued that this main issues arise from not having sufficient information on distance education technologies and the absence of teaching for the Departments. Furthermore, he suggested that suitable training presented to faculties,

site architects, support specialists and managers. It is very vital to have a specialized development certificate for distance learning.

Vitalicy Chifwepa (2008) in his study, he points out the growing expansion and admission rate of distance education and stressed on the fact that the learners do have positive approaches towards ICT based setups of the course resources. He also said that Students do believe that ICTs would develop their learning process. The students see ICT as a vital tool that backings their revisions. Nevertheless, the learners said they will not only use the internet as their only source of materials except if the access to ICTs is definite to them.

Jale Balaban Salı (2008) in to her article, she talked about the necessity of the designing instruction, and the necessity to anticipate the instructional requirements of students and thus developing functional learning systems consequently. The prevailing instructional design models arose due to inevitability. The motivational design model set out those Instructing methods that need to be organized with the approaches, which will improve the attention, significance, confidence and gratification of learners, hence, safeguarding the steadiness of the learning desire and inspiration. The study also discuss the schemes that are produced due to the revealed policies that improves the focus of the learners during the learning process, emerging a significance to the learners' desires, building an encouraging anticipation for achievement and support having a fulfilment by strengthening success. The study actually summarizes the practical understanding of studies correlated with this subject and the references in scheming an operative inspirational educational schemes in distance education.

Dale A. Harris & Chuck Krousgrill (2008) in their study “Distance Education: New Technologies and New Directions” they examine the technologies used in distance learning and also the effects of improvement required to ease the most vital Development in this field. Furthermore, the authors analyzed the historic submissions of technology. Nevertheless, they said that technology-enabled productivity improvements in distance education have not yet appeared nor has the Pedagogic variations been negligible. The real fact is that, higher education learners, globally, enroll into distance learning classes because it learning can be accessible at any location and at any time.

2.1.1 Summary

ICT has made work easier in education; ICTs empower instructors and students, making very important contributions to learning and achievement in institutions. Students can now study in their own convenient time and at a convenient place. Distance learning has creates a lot of flexibility in institutions today, students can now accomplish their school work at any location provided there is a computer and internet service connection. Furthermore, it enables students to work at anywhere they are convenient without having to sit in a scheduled classroom. Although it still has some limitations affecting the student's motivation, such as the self-directed education which make the student totally independent and permanently separate from the instructor.

Also in Distance education, the learning outcomes and the performance of students are higher when the students communicate in tow-away with the teachers through the use of ICT tools such as videoconferencing, telephones etc.

Distance education makes work much easier for the students to achieve their program because the time when the classes or lectures can be completed are very flexible, student can work on their own at any time instead of the stress to go to a scheduled classroom in campus. Although there is more responsibility for the students as the work is flexible. Students are expected to work fine independently without guidance and monitoring. This apply to students who are not easily self-motivated and students who are in geographically remote areas who may not have access to educational opportunities in their local institutions.

Distance education is something that institutions should not avoid especially for students who are very far from the school. Although some certain requirements needs to be accomplished for distance education to stand properly such as the instructional design plans, communications and abilities that best fit the certain features of the course program and most important the ICT tools such as internet, course website, radio etc.

2.2 Online learning

Michael R. Simonson (2003), titled "Distance Education", mentioned that the students taking courses online need to know if the course contents delivered online worth it and also if learning online is a reliable method of learning. For the student's requirement to be satisfied, the researchers used a surprising survey. Their results revealed that learning online is as operative as the old-style learning (face-to-face education) and other students were predictable to start utilizing the online programs. This showed that the development of distance education is inevitable.

E.C. Boling, M. Hough, H. Krinsky, H. Saleem, and M. Stevens (2011) focused in their study to learn about the online learning setting from the instructor and the learner's viewpoint. The researchers used the qualitative research method and they aimed on the enlargement and the employment of an operative online learning practices. They focused on the limitations and sponsors of content of the courses delivered and the instructive method, as defined by students and lecturers in online learning approach. They also use cognitive training ideal for it to pronounce their data analysis. Their findings showed the awareness for the lecture improvement and pedagogies as well as proposing opportunities for further research.

Paul Bradley (2011), in his study, states out that to the development in the admissions to online learning in all aspects of education. This Backings the developing agreement concerning the worth of distance education evidencing that they have gotten to the standards of old-style education.

2.2.1 Summary

Technology now makes education much more flexible today. Information and Communication Technology tools have made school work much easier for the students. Online education makes use of this ICT tools such as computer, internet and so on. Students no longer need to be in classrooms before they can receive lectures. Learning is done online at any location so far the students are connected to the internet with their computers.

Online learning is very important in institution because of its flexibility and the kind of collaboration of work between the students. This collaboration tools (online discussion group, forums etc.) makes the students to share views between themselves which also increase their understanding about a topic or work. In online learning, the

teachers are available and approachable, students have access to the course materials online in 24/7, students are able to gain their internet and computer skills.

Institutions should not avoid the effective use of this ICT tools (internet connection, computers, online learning tools etc.) in their environment although the cost of establishing and maintaining it can be challenging.

2.3 Learning system

Basically, a library is a place where books, newspaper, records, are kept for reading or borrowing. But talking about learning system is software application that is used to design, implement, and assess a specific learning process. The use of learning management system has grown considerably in the world education. Basically a learning management system make available for instructors with a way to create and deliver content, monitor the student participation, and evaluate student performance. A learning management system also offer the students with the ability to use interactive features such as eased discussions, discussion forums to communicate with teachers and even with their fellow students and conferencing.

Stantchev, Colomo-Palacios, Soto-Acosta and Misra (2014) said Learning management systems are virtual learning environment which provides high level of functionality as regards of learning activities and structures for course management and tracking. Using LMS in education provides the instructors and the learners with a set of tools for developing the learning processes and managing it. LMS can also be used as a tool to maintain classes, used to upload course information and also provides a way to communicate between the instructor and the learners.

Machado and Tao (2007) also mentioned that Learning Management Systems is one of the technology that have been adopted for both cooperate lessons and in schools. LMS is a system or software designed with some special features to help the instructors to meet their pedagogical aims of delivering instructional contents to the students. This type of LMS is considered web-based and are accessible through the web browser and the internet connection.

McGill and Klobas (2009) mentioned that Learning Management System can store, process instructional materials and helps in the administration and communication related wit teaching and learning which can also be seen as virtual learning environment. Lonn and Teasley (2009) states that Learning management systems can also be seen as web-based systems that enables the instructor and students to share contents or course materials, enables communication between instructors and students and also students can submit their assignments online. The main aim of LMS is to make the Electronic Learning faster and better and also make it less expensive and more user friendly using the modern technology. There are so many Learning management systems today webCT, Blackboard, Moodle, Dokeos, eFront, eCollege, WeBWorK, SAAS/CLO and so on.

One of the main strengths of LMS is that they can decrease a lot of the administrative work involved in assessment. Some types of collective assessment can be completely computerized with self-marking quizzes, tests and exams so that students can get their results immediately and teachers only have to analyses the results. However, I will list and explain 3 of the popular.

2.3.1 Moodle

Moodle is one of the most popular Learning Management System today. it stands for Modular Object Oriented Dynamic Learning Environment. Zakaria and Daud, (2013) said Moodle is a Learning management system that is an open source electronic learning system which can be used as a tool for providing content to students in a more interesting and easy way, it can be used to deliver collaborative learning. Moodle also helps the users to be active students, helps to actively participate in the online learning process. The Moodle is composed of so many features such as the

- Announcements which is used to display messages to all participants to read.
- Chat: this is a conversation tool where students can communicate with the instructors.
- Discussion this enable both the students and the instructors to communicate and discuss with each other.
- Schedule: this feature is a type of calendar which is used to post deadlines, submission dates.

2.3.2 Blackboards

The Blackboard Learning System is a LMS which is also known as a course management system developed by Blackboard Inc. The Blackboard in a commercial LMS. Nevertheless using Blackboard is much more expensive to manage as it acquires a license cost every year (Carvalho, Areal and Silva, 2011). Blackboard has been introduced to improve every single aspect of the education experience for learners and instructors around the world. Blackboards helps to improve the individuals and the instructional performance, It makes instructing and learning more effective in classrooms and beyond, it helps to deliver the community or users with information at any place and time, it enable more interactive, engaging

,individualizing learning experience, makes it more to learn in and off the campus conveniently. Jackson (2007) states that The LMS such as the Blackboard learning system, helps to include information literacy in the courses online.

2.3.3 Edmodo

Edmodo is one of the most popular social networking site used to in education today. As Fardoun, Alghazzawi, López, Penichet and Gallud (2012) has said that Edmodo is an educative social networking system which offers the instructors with the functionality to create class groups where students and teachers can communicate and share ideas with each other. Also it helps the teachers to send messages, announcements, post assignments and also the voting features. Users and also share files, links or URLS. Not only can the teachers create groups, students can also create groups. Although in the students group, the communication options are limited than those of the instructors in which they have the option of messages which can only be used to communicate with the entire class publicly or send message to the teachers privately. Despite all these functionalities, Edmodo it has some few challenges in it such as the chat tool has not been implemented unlike Facebook, Myspace and so on, It does not have the kind of page where the teachers can see the structure of the subject or the index, and also the order of the courses and materials of Edmodo are not that clear to navigate.

Wallace (2013) mentioned that Instructors are Instigating Edmodo in their instruction and learning plan in such a way that it not only Comprehends and embraces effective, existing Prototypes, but also Acts as a promoter and a driver for transformation by turning the traditional teaching system on their heads which enables the students to participate actively in their learning Throughout the school

time and out of school. This promotes the access of information and gaining on knowledge in an extensive range of learning settings. Instructors use Edmodo not only for an instructional system but also for strategic and tactical stages in the lecturing room in the objective of social networking.

2.3.4 Summary

ICT can enrich the educational system. Students need to gain the skills and understanding to get the best out of the innovating ICTS. Technology is not everything but it plays an important role in the systems used to learn in school.

Learning Systems makes the students learn electronically and makes the learning faster and better and also make it less expensive and more user friendly for the users. Using ICT tools (learning systems programs, internet connection, Personal computers, presentation programs etc.) has made learning more interesting in education. Learners can now communicate better, give suggestions, contribute and participate more in online programs such as learning systems.

As universities are adapting to a multicultural and population with the emerging emphases and diverse academic interest, it is very important for the institutions to implement the use of Learning systems such as LMS listed above in their curriculum. The learning systems should involve in the process of implementing new features to the educational environment and the promotion of new diverse positive values to the users. Learning system should not be left out in the institution as the technology is growing rapidly every day.

2.4 Social Networking

Lockyer, L., and Patterson, J. (2008), in “Social Learning Platforms and the Flipped Classroom”, defined a social network as a web-based software where users share information through their personal profiles, Connect with other users of the social network site (friends and contacts), upload and share multimedia contents, share links of contents that are accessible via the web, and also creates an environment where users can create and join groups. All these can be seen as communication where by the users are using technology to communicate with each other. Therefore it is perceived for the social network to impact the educational system.

Wallace, A. (2013), in “Social Learning Platforms and the Flipped Classroom”, said though the social learning platforms are seen as instrument for improving remote area learning, they are often used within the school environment. but one of the great features of social networking environment that support communication activities is that when it is incorporated into the classrooms or schools effectively, they can help to simplify a sustained ecological variation in lecture rooms, and also motivate the learners by enabling a feasible, high quality learning that is not just intended at indorsing high principles in lecture rooms but also assisting to improve the levels of attending and participating in school activities too.

Griffith, S., and Liyanage, L. (2008), in another study “An introduction to the potential of social networking sites in education”, states that the psychosocial benefit of social networking are the help of personality exploration, it also provides social understanding skills like perception thinking, and help to achieve the need for communal support. Social networking creates an environment where users can be

allow a more personalized experience for learning on the internet to complement what is been taught in a traditional classrooms. The examples of these are the discussion boards, messaging, wikis etc.

There are so many social networking sites available today which some of them can also be used to educational purposes such as Facebook, flicker, blog, wiki etc. This book will focus on the ICT impact in social networking technologies use in educational environment reviewing 3 popular social networking technologies that provides educational functions.

The Facebook social network technology is a popular networking site which has the Potential to be used for teaching and learning because of its distinctive functions that provides instructional, social and technological affordances.

Wang, Q., Woo, H. L., Quek, C. L., Yang, Y., and Liu, M. (2012),in "Using the Facebook group as a learning management system: An exploratory", Said Facebook has become one of the most outstanding social networking system, it also provides some potentials of teaching and learning. One of its features that enables teaching and learning is the Facebook group page which is used as learning management system such that the instructors can Put up announcements, Organizing weekly tutorial sessions, Sharing course resources, Conducting online discussions, and some Other administrative matters. Furthermore in their research, they found out that when the Facebook page is used for teaching and learning, students are motivated to share views. Facebook group provides a safe and friendly environment where students feel convenient communicating and interacting with one another, the students get to know their peers better and also some of the students became friends with each other

during the course program. ICT tools are very important in the educational system, is a very important tool that helps students to communicate in a more convenient way especially the for the students who are shy to communicate face-to-face with their fellow students, it helps to break this kind of barriers. And also with the help of ICT tools, it helps the students or the users to have access to information online. Example of this is when the teachers post on the group page of Facebook and share downloadable documents on the page wall.

2.4.1 Summary

In the last decades, students go to class with bags full of books, pens to write and teachers go to class with chalk to write on the board but today ICT has provided a way where it's just a single laptop or pad that can be used to save the books and writings and also the materials needed can be posted online for download. Now social networking is making huge impact on education. The impact of ICT has definitely transformed the way students learn and communicate today and has further connected more and more students and teachers together. Looking at the Facebook, it provides an easy way to learn with the group page and also easy to navigate, user friendly, good color combination which all this makes it more convenient for the users to use.

There are so many reasons why the school need to take the impact of ICT in the social networking aspect seriously into the education system because it enables the student to collaborate and work together in one team, it helps students to share school work and projects such as pdfs, pictures, PowerPoints etc. It helps the students in their communicative skills and helps to develop interpersonal

relationship, provides a free environment where students collaborate to achieve goals in their school work.

2.5 Information and Communication Technology

The role of ICT in education is becoming very important as the world is growing rapidly into a digitalized media and information society. ICT has become the connection of communication among communities, countries; a tool used for opening opportunities, and creates channels for educational, personal and country development.

Latchem (2014), stated that there is really a great need for the research in educational technology to evidence how and in what ways educational outcomes can be improved by employing the new tools. The idea of educational technology of addressing the technical, administrative and institutional complexities of educational change entirely began to blend in the 1960s - 1970s. The progression of the planned learning methods and audio visual teaching devices which all seemed to be proficient of revolutionizing education had proved to have their disadvantages.

Many observers have proposed that the use of new ICTs has important potential in providing right to use, and refining the excellence in education.

According to Rodríguez, ussbaum, López and Sepúlveda (2010), more than 20 years after information and Communication technology were introduced in schools, it still lack a solid evidence of the actual role it plays in education and the reasons are that there is absence of information concerning the precise types of ICTs used, the infrequent attention given to the observing and the evaluation of ICT in education programs and the Incompatibility between the techniques used to measure the effects

and the type of learning indorsed. It was confirmed that there were statistically very important positive transformations in students whose instructors presented higher adoption levels when related to both lesser adoption cases and other defined control groups. For this, monitoring and evaluating is something very important by providing real-time information for decision making through the request of valuation instruments according to the monitoring plan for it helps in understanding what really happens when an Information and Communication Technology program is applied in a classroom setting.

Bocconi, Kampylis and Punie (2013), said in order to use ICT effectively in education, it is very important to increase the understanding base on technology use in education, clearly outlining the specific features and consequences of innovation for learning using Information and Communication Technology (ICT). Also the students and instructors should have access to experiences in which they can become familiar with the unique contributions that ICT plays to their creative practices of which other media tools do not offer and in other to bring about this transformative deviations to education, the part of ICT should be upsetting, changing both the instructor’s and the learner’s impart in formal settings.

Beacham and McIntosh (2013),mentioned that Using ICT in schools helps in the student's cognitive increase and education can help to establish more digitally inclusive society if instructors work together through and with others to improve the inclusion of students. It is then now important for students and instructors to know the use of ICT in education is a way for school to construct a digitally comprehensive society because as the digital technology is becoming progressively universal in education, the respect of the effect ICT has on inclusive education and practice will

become more vital. Digital inclusion does not necessary mean that all folks make use of ICTs all through their daily lives, but it can been seen as warranting that all persons are able to make use of ICT smartly.

Fu (2013) stated that through Information and Communication Technology, students can learn at any time and in any location, material courses Online can be easily accessible in 24 hours a day and seven days a week which means that using ICT, learning and teaching no longer depend on just classrooms and also using printed materials. ICT in education help the users to build new knowledge through accessing, selecting, organizing, and interpreting information and data however ICT provides both the students and the teachers with more educational affordances and possibilities where by students are able to used information and data from various sources. Through the collaborative learning with ICT tools, learners have more opportunity to build the new understanding into their background knowledge and also become more confident to challenge themselves and learn their mistakes.

Tenekeci (2011) said do not think ICT systems are the same everywhere. Verily, countries are unique in the way Information and Communication Technology is used and the way they are being taught or their knowledge towards it Not all places or schools are able to benefit from the Improvement ICT can bring to them due to the limitations in ICT infrastructure amenities, lack of support and training, higher cost of development, lack of higher bandwidth of internet connectivity. In other words, finings states that there is no problem with ICTS in putting it in schools but the problems they are facing is a lack of support in terms of facilitating conditions and mainly there is no training of the proper use of ICTs. Schools are different in the ICT tools they implement.

Cubukcuoglu (2013) as said, to build an environment where technology is used regularly and efficiently, it is very important to maintain the needs of teachers in using technology in teaching and learning by attempting to eliminate the possible obstacles that obstruct frequent technology use and to identify the enablers that encourage it. In addition, it is very necessary to fetch for the limitations that can hinder the technology use and remove or fix it. By doing this, it will help the teachers to be motivated and make them eager to implement ICT in their teaching. The use of ICT also helps the teachers to reach many goals of education and support learning in both inside and outside the classrooms. Although applying new technology is dependent on the instructor's and students positive attitudes and beliefs towards its effectiveness. In this case, the personal factors of the instructors should be considered more than the other factors but for instructors to have a positive attitude, he or she would need to have some skills of ICT use and also be very confident in using ICT.

Muñoz, Duart and Vinuesa (2014), mentioned that recent findings on e-learning proves that blended learning is more effective than face-to-face learning. It was also analyzed that implementing the internet as an interactive learning style is an effective idea to get to the maximum benefits of the investment made in that technology. Using the internet to learn in school helps learners to communicate, interact and collaborate with each other, although there is a challenge of time spent online but to maximize the time learners spend to study online, it is more favorable to interact with other persons in the learning process than to search for information individually. Moreover, using the internet in education can lead to longer study times and also create greater interaction between learners. As a result of all these, online interaction

is basically useful to the study of academic success inequality that the implementation of the internet can bring into higher education systems.

Using game to learn is another way ICT is impacted in education. Especially when dealing with mathematics which helps students to learn better. Learning through games, most especially, the low-ability students made the most significant progress in their arithmetic skills and also help them to build up their self-confidence in doing arithmetical calculations. Also using game to learn, mathematics in particular helps the student in their arithmetic skills in subtraction and addition which are the common components in mathematics in the mathematical instruction. It promotes the skills of addition and subtraction which builds the students capacity and their arithmetic skills progress fully. Therefore if game is implemented in teaching or in schools it can motivate the students and promotes their eagerness to learn. (Chen et al., 2012). But this does not apply to all courses.

Gebre, Saroyan and Bracewell (2014), analyzed in their work titled "Students' engagement in technology rich classrooms and its relationship to professors' conceptions of effective teaching" that the Student engagement has been one of the main research in the role of information and communication technology in education. This is basically to know the advantages and the disadvantages and to see how to improve in flaws to make the impact better. The main purpose of this study is to determining dimensions of student engagement in technology rich classrooms and examining the relationship between dimensions of student engagement and professors' conceptions of effective teaching. The method used to conduct the research was qualitative method whereby the data was collected using questionnaire data from 332 students and they analyzed the data using SPSS 17. And they also try

to see the relationship between teachers on how they teach which involves 13 professors' from different areas of courses which the least of them were assistant professors so in their findings, the result of the Components of student engagement showed that the Initial extraction produced eight components accounting for 61.6% of the disagreement. In general, they concluded that the Students' engagement in information technology is related to other aspects of their educational practices, it opens up new opportunities for integrating pedagogical innovations in an environment where learners are expected to function actively, self-governing, self-reflected and collaborative members.

Wastiau et al (2013) surveyed in schools whereby they investigated both the instructors and the student's frequency of the use of ICT and its based activities during lecture and also investigated the students and teachers confidence in their individual abilities and the correlation between them. One of the findings of this study was that most instructors have been familiar with the ICT tools for years but the still mostly use it to prepare their instruction. Only few use ICT efficiently but still to an inadequate extent to work with students during lectures, communication with students in and outside the classrooms. Hence is highly vital for all the instructors to have the required understanding and skills to implement the use of ICT in their everyday teaching practices in order to exploit their abilities to increase the learner's competency.

Austin and Hunter (2013) mentioned that there is considerable difference in the educational Information and Communication Technology environment nationally. They Analyzed in their research which they conducted "in Canada, Northern Ireland and Ireland" that the use information and Communication Technology that will

distinguish an e-mature education system will Occur mostly in the situation of economic and policy structures that makes the resources available and in the societal, cultural and the historical settings that are Cooperative to use communication technologies. In their analysis, the found out that the historical, social and cultural characteristics of Alberta (Canada), Northern Ireland and Newfoundland helped to shape the use of ICT IN educational settings in so many diverse ways.

Disorientation can be a challenge which can affects the way the student learn in a web based learning environment. Mostly the cause of this Disorientation is the level of computer skills of the learner. Moreover, the effect of this disorientation problem is concerned with learning outcomes. In their research, the result indicates that the disorientation problems are course by the computer experience of the learners, frequencies and time spent using each navigation tool which the consequences of these disorientation problems affects the learning effort and the performers. Disorientation problem can stop the students in reaching their desired learning aim and also slack their motivation and self-confidence while using the web-based learning system. The students with the high level of computer literacy may not feel any confusion when using the web-based learning on like the way the students with the lower computer experience may feel easily confused. This is to say that the students who are familiar or have a sufficient computer experience can easily understand the functions on the web-based learning (Shih et al., 2012).

Although ICT has advanced in so many regions notwithstanding there are still some regions where the gender distract the standard utilization of ICT. Accessing the ICT tools most especially the internet, is particularly difficult for women in poorer and less developed areas where telecommunications structure is deprived.

Notwithstanding, the developments of Information and Communication Technology in many regions today, yet, women's access of ICT is still slaking for example the some part of the Arab countries continue to lag behind men, creating a widening gender digital gap (Elnaggar, 2008).

Leach, J. (2008), said In some cases, it will certainly lead to failure of the appropriate use of information and communication technology, since complex ICT devices will be too complex to master especially for teachers who are in the rural areas. Accessing ICT tools and infrastructure is too emergent the especially in the rural parts of Africa. Some schools do not have electricity, no telephone connectivity, the classrooms have poor normal natural lighting and flimsy furnishing, no windows in classrooms, dirty environment, students stand during lesson sometimes due to lack of chairs and desks in the classrooms .With all this disadvantages, it shows that effective use of ICT tools in this rural environments will be too complex to master. Many researchers have found out that the effective use of ICT has significant values in improving the quality and enabling access to education. In order words planning for the growth and the educational improvements in this rural region should clearly identify the significant role ICT plays in education.

Shafiul (2010), he said with the impact of Information and Communication Technology in education, there is an improvement in the way the students learn due to its stress-free availability and accessibility which means the students can study at any place at any time, distance education is now stress-free whereby students can study conveniently without strain. Information and Communication Technologies are powerful tools for improving educational opportunities in both the formal and the informal settings. In this 21st century, students now prefer more flexibility in the

learning process through the use of ICT tools. They no longer fancy the use of textbook materials due to its high complexity and great diversity of contents. For ICT to be implemented efficiently in education a very high level of integrity and moral standard is required by the teachers, Students, ICTS experts and other individuals involved and also for ICTS to be very effective, every individual involved has to improve themselves continuously to keep the standard of the fast technology growth. Grove (2008), states that The more the Technology is implemented in schools, the need for educated teachers to use the technological tools efficiently is turning to a demanding concern for it can undermines the effective use of ICT in schools. Educating the prospect teachers who is knowledgeable and can integrate the active use of the ICTs in their curriculum remains a stimulating aim for teacher research programs.

2.5.1 Summary

In today world, Technology has really changed the educational systems. The role of ICT in education is becoming very important as the world is growing rapidly into a digitalized media and information society. ICT tools has made the communication easy in education, Opportunities are now open for students to learn comfortably without stress and also creates new opportunities for integrating pedagogical innovations in an environment where learners are expected to function actively, self-governing, self-reflected and also collaborate in their works.

The effective use of Information and Communication Technology (ICT) has momentous values in improving the quality and enabling access to education.

Although for ICT to be used effectively in education, it is very important to increase the understanding base on technology use in the institution, clearly drawing the specific features and consequences of innovation for learning using ICT tools.

Chapter 3

METHODOLOGY

The main idea of this research is to survey the perceptions of selected students regarding the impact Information and Communication Technology in their learning. The four purposes of this chapter are to answer:

- How is ICT used in education
- Does ICT help the students to learn better
- Are there any challenges
- Will it change anything if you terminate the role of ICT in education

3.1 Research Methodology

A quantitative research methodology was used for this study. A survey was administered to a selected sample from a random population identified by the Eastern Mediterranean University. Quantitative method aims to estimate the problem by Generating statistical information or the data that can be converted into functional statistics. The term ‘survey’ in research is usually applied to a methodology designed to collect data from a particular population, or a sample, and classically uses questionnaires or an interview as the survey tool (Robson, 1993). Furthermore, surveys are used to collect data from persons about themselves, their households, or about larger organizations group such as schools, offices. Sample surveys are significant instrument for gathering and analyzing data from the selected individuals. Therefore as quantitative research method is basically about collecting numerical data to elucidate a precise phenomenon; the specific questions seem to be answered

immediately using the quantitative research method. Some of the kinds of questions are how many females get first class result compared to the males? Has the students achieved greatly in English language studies? These are the kind of questions that can be asked quantitatively as the data needed are already in the numerical form (Groves, Fowler Jr, Couper, Lepkowski, Singer and Tourangeau, 2013).

3.2 Reliability and Validity

The total population of Eastern Mediterranean University in spring semester 2014 is about 16,000 respectively. So Sample size (N) is significant in order to achieve the reliability, validity and generalize the result. Signifying competency of the population and satisfactory sample error are the main standards for the sample size. So N>/ 50 + 8m (M = independent variable) for multiple correlation. The "M" used in this research is the summation of the independent variables. When m= 10, approximately 130 students is sufficient for the study. According to the above, the sample size of the study is satisfactory enough for all the study and statistical analyses applied in this study.

3.3 Sample

In this study, random sample was used for the methodology of university students in Eastern Mediterranean University. Gay (1987), states that “Random sampling method is the utmost single way to acquire a descriptive sample”. Although no method including random sampling that assures a representative sample, but the possibility of using random sample for this procedure is higher than any other method.

Gay also said that random sampling is an appropriate methodology to make the population balanced and make meaningful correlation between sub-groups. He also

said that sampling theory backings random sampling as an effective choice because stratified the samples are possible closer to the mean of the population overall. Lastly, Leary (1995) point out that a random sample will classically reveal the characteristics of the population as a whole.

3.4 Instrumentation

In this study, the survey used is to observe the student's perception towards the use of Information and communication Technology in their daily life. The instrument used in the survey questionnaire is divided into four sections. The first section: item1-6, examined the department of the students, the class, gender, GPA / CGPA and their age. Section two: Item 7-8 which examined how the students use computer and internet at home. Section 3: item 11-12, examined how the students use computers and in and the reason why they use computers in general. In item 11, the surveys to know how often the students use computer at home, at the university and others (internet cafes etc.). In item 12,the questions asked are to examined if the students use the computers for searching for information, making presentations, communicating online with teachers, communicating online with other students, communicating online with friends, communicating online with parents and communicating by emails with educational authorities. Section 4, item 13-20, examined how the students use computers at the university. In item 13-14, the survey asked if the students have ICT room at the department, does their classrooms have computers, how comfortable are they with computers, do they prefer using the computer by themselves or do they prefer working with friends. In item 17, the questions asked if the students used or are using ICT in their work/ with their classes, has the institution given them any special training in ICT, have the students registered him or herself for any ICT course, do the students have a computer lab at

the university, do the students have PCs in every classrooms, do the students have an assistant to team teach with them. Item 18 examined how often the students use computers for activities such as chatting online at the university using email, browse the internet for the university work, doing individual homework etc. In item 19, the survey used was to examine the student's perception of the use of Information and Communication Technology in their academic tasks. ICT help to show me the way i am, ICT help me to generate pleasant atmosphere in classrooms, ICT facilitates my social relationship with the group, ICT help me to explain my problems to the teachers, ICT help me to ask other questions, ICT allow me to express my emotions more freely, ICT allow me to publicly show what I do for the subject, ICT help the teachers to pay more attention to us, ICT help the teachers to guide the working methodology, ICT allow me to plan my work, ICT allow me to better evaluate my progress in the subjects, ICT enhance the pace of work, ICT facilitates the integration of knowledge from different sources, ICT help me to gain knowledge related to the subjects, I use ICT when I want to know more about the subject, ICT help me to do my academic homework faster, ICT help me to do my academic homework better, ICT help me to develop skills related to the subject, ICT help me to exchange ideas with my colleagues, ICT allow me to apply the required knowledge, ICT makes it easier for me to pass the course, ICT facilitates the diagnosis of my learning mistakes, ICT allow me to better communicate with my teachers, ICT help me to receive assistance from the teacher, ICT allow me to exchange ideas with my teachers. ICT help me to resolve my doubts. All of these were measured in this part of survey.

The last item 20 was used to examine the school capacity to improve Information and Communication Technology in teaching and learning. the survey questions are Not enough number of computers, Not enough number of computers connected to internet, inadequate internet bandwidth of speed, lacking interactive whiteboards, in short number of laptops/notebook, school computers out of date or needs repair, lack of adequate skills of teachers, Not enough technical support for teachers, Inadequacy of content/material for teaching, too challenging to incorporate ICT use in the curriculum, not having instructional models on how to use ICT for learning, The institution schedule (fixed classes time, etc.), school settings organization (size of the classrooms and the furniture's etc.), pressure to prepare learners for examinations and tests, not most parent are in favor of the use of ICT at the university, not most teachers are in favor of the use of ICT in classrooms, no or imprecise benefits to use ICT for instruction, using ICT to teach and learn is not a goal in the university.

3.5 Data Collection

Questionnaires were distributed to 197 students in Eastern Mediterranean University for the study Recipients were requested to complete the questionnaire and to return it back immediately they finished filling it. There were 197 questionnaires, 112 were translated to Turkish language in other for the Turkish students in school to really understand the questions asked in the questioners and the other 85 questioners are in English language. The researcher was careful to avoid constructing a complex and lengthy questionnaire so the respondents will be comfortable and answer the questions in lesser time.

3.6 Method of Analysis

The data analysis involved for examining the surveys for perfection and completeness, coding and keying data into a database in Statistical Package for the Social Sciences (SPSS), and performing an analysis of descriptive according to frequency distributions and descriptive statistics. The Frequency tables and descriptive statistics are constructed to display the results with respect to each of the research questions. T-Test and Anova were also used in the analysis to examining the relationship between dimensions of student engagement. Correlation tables were constructed to see the correlation between the questions asked.

3.7 Summary

The aim of this chapter was to explain the research methodology of the study, describe the sample selection, describe the procedure used in designing the instrument and gathering the data, and provide an enlightenment of the statistical processes used to analyze the data.

Chapter 4

FINDINGS

4.1 Frequency

Table1. Department Frequencies

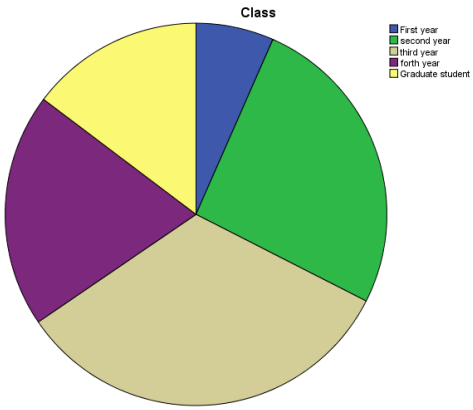
	Frequency	Percent
IT	47	23.9
Pharmacy	1	.5
Economics	7	3.6
Banking and Finance	10	5.1
International Relations	10	5.1
Mechanical Engineering	24	12.2
Industrial Engineering	6	3.0
Business	8	4.1
Tourism	6	3.0
Computer Engineering	6	3.0
ICT	3	1.5
M.B.A	2	1.0
Management information System	5	2.5
Law	1	.5
CITE	2	1.0
Communication and media	2	1.0
Visual Art	1	.5
Education	1	.5
Accounting	1	.5
Electric and Electronic Engineering	6	3.0
Political Science	1	.5
Public Admin	1	.5
Finance	1	.5
Physiotherapy	3	1.5
Health Management	2	1.0
Primary Teacher Education	2	1.0
Werwik Management Group	2	1.0
PDR	4	2.0
Marketing Management	1	.5
Pedagogic Formation	6	3.0

Civil Engineering	2	1.0
Supply chain and logistic	1	.5
Public Relation and Advertising	2	1.0
Class Teacher Education	1	.5
Human Resources Management	1	.5
Applied Mathematics and Computer Science	2	1.0
Marketing	1	.5
Interior Architecture	4	2.0
Computer Aided Accounting	3	1.5
International Trade and Business	4	2.0
Business Administration	1	.5
Food and Nutrition	1	.5
Accounting and Tax Management	1	.5
Dietetics	1	.5
Total	197	100.0

In terms of Departments, there were 44 students from Information technology, 1 from pharmacy, 7 from economics, 10 from banking and finance, 10 from international relations, 24 from mechanical engineering. 6 from industrial engineering, 8 from business, 6 from tourism, 6 from computer engineering, 3 from ICT(MSC), from MBA, 5 from Management information system, 2 from CITE, 2 from communication and media, 1 from visual art,1 from education, 1 from accounting, 6 from electrical engineering, 1 from political science, 1 from public admin, 1 from finance, 3 from Fiyoterapi, 4 from marketing, 6 from pedagogy formation,6 from Werwik management group (MSc), 2 from civil engineering, 1 from supply chain and logistic. 2 from public relations and advertising, 2 from mathematics and computer science and the remaining 25 are from other Turkish departments.

Table 2. Class Frequencies

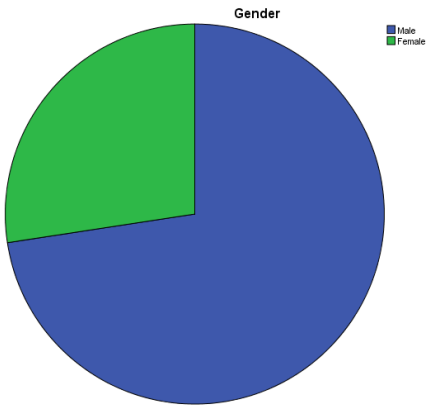
	Frequency	Percent
First year	13	6.6
Second year	51	25.9
Third year	65	33.0
Forth year	39	19.8
Graduate	29	14.7
Total	197	100.0



There are 6.6 percent of first year students, 25.9% second year students, 33% third year students, 19.8% forth year students, 14.7% graduate students who participated in the study.

Table 3. Gender Frequencies

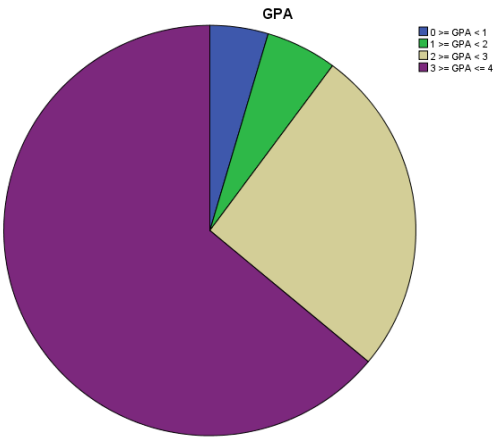
	Frequency	Percent
Male	143	72.6
Female	54	27.4
Total	197	100.0



72.6% male and 27% female participated in the study.

Table 4. GPA Frequencies

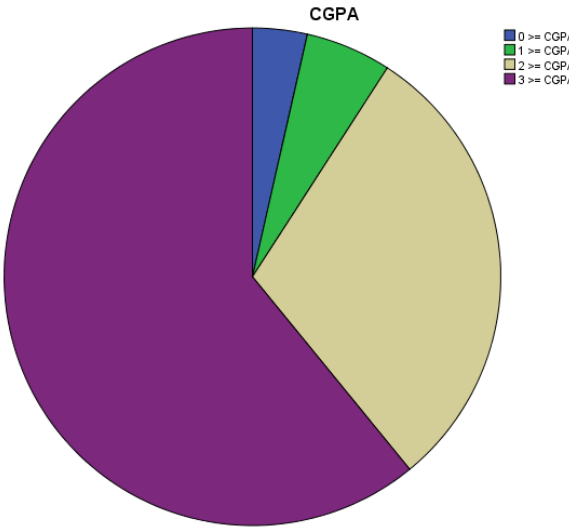
	Frequency	Percent
0 >= GPA < 1	9	4.6
1 >= GPA < 2	11	5.6
2 >= GPA < 3	51	25.9
3 >= GPA <= 4	126	64.0
Total	197	100.0



There are 4.6% students with the GPA between 0-1, 5.6% with GPA 11-2, 25.9% students with the GPA within 2.1-3 and the 64% students with GPA within 3.1-4.

Table 5. CGPA Frequencies

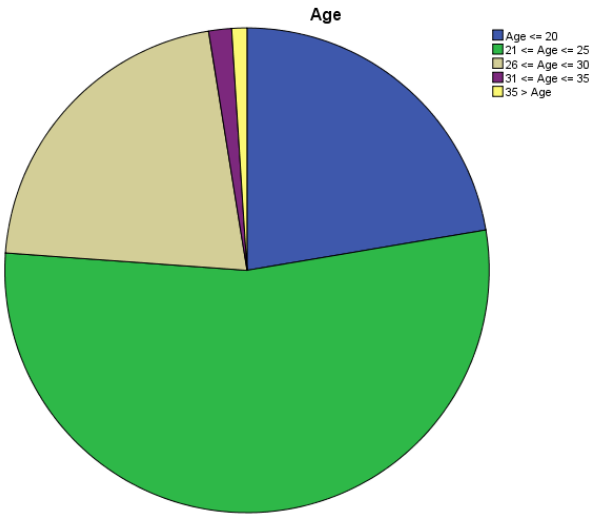
	Frequency	Percent
0 >= CGPA < 1	7	3.6
1 >= CGPA < 2	11	5.6
2 >= CGPA < 3	59	29.9
3 >= CGPA <= 4	120	60.9
Total	197	100.0



There are 4.6% students with the CGPA between 0-1, 5.6% with CGPA 11-2, 25.9% students with the CGPA within 2.1-3 and the 64% students with CGPA within 3.1-4.

Table 6. Age Frequencies

	Frequency	Percent
Age <= 20	44	22.3
21 <= Age <= 25	106	53.8
26 <= Age <= 30	42	21.3
31 <= Age <= 35	3	1.5
35 > Age	2	1.0
Total	197	100.0



There are 22.3% students within the age less than 20, 55.8% between 21-25, 21.3% students between 31-35 and students within the age greater than 35 who partake in the study.

4.2 Anova Analysis of age.

Table 7. Anova analysis of age the questionnaire items

	Sig.
At home	**.048**
Other (like Internet cafes, etc.)	**.046**
Communicating online with teachers	**.013**
How capable are you in using computers	**.005**
ICT shows me the way I am	**.018**

4.2.1 Crosstabulations

Table 8. Age and how students uses computer at home

	daily	2 or 3 time a week	once a week	once a month	never
Age <= 20	31	6	3	0	0
21 <= Age <= 25	86	11	2	1	4
26 <= Age <= 30	35	5	1	0	0
31 <= Age <= 35	3	0	0	0	0
35 > Age	1	0	0	0	1
Total	156	22	6	1	5

When analyzed: 31(15.7%) students of the age 20 and below said they use the computer in their home daily while 6 (3.0%) said they use it 2 to 3 times a week. 86 (43.6%) students of the age 21-25 used computers in their home daily while 11(5.5%) of age 21-25 used computer in their home 2 to 3 times a week, 35 (17.7%) students of the age 26-30 used computer at home daily while 5 (2.5%) used in 2 to 3 times a week.

Table 9. Age and how students use computer at internet cafes

	daily	2 or 3 time a week	once a week	once a month	never
Age <= 20	18	5	5	2	12
21 <= Age <= 25	22	13	8	19	35
26 <= Age <= 30	11	5	3	7	14
31 <= Age <= 35	0	0	0	0	3
35 > Age	0	0	0	0	2
Total	51	23	16	28	66

18 (9.1%) students of the age 20 and less used internet cafes and other once a month while 12 (6.0%) never used it, 22 (11.1%) students of the age 21-25 said they used ICT tools like internet cafes once a month while 35 (17.7%) said they never used it and 11 (21.6%) said they use internet cafes and others daily in a month while 14 (22.6%) said they never used it.

Table 10. Age and students use
Computers to communicate with teachers online

Age	Yes	No
Age <= 20	34	9
21 <= Age <= 25	84	18
26 <= Age <= 30	35	5
31 <= Age <= 35	1	2
35 > Age	0	2
Total	154	36

34 (17.2%) students of the age 20 and below agree they use computer to communicate online with teachers while 9 (4.5%) disagree. Also 84 (42.6%) students of age within 21-25 said they use computer to communicate with teachers while 18 (9.1%) disagreed and Also 35 (17.7%) students of age within 21-25 said they use computer to communicate with teachers while 5 (2.5%) disagreed.

Table 11. Age and how capable are students in using computers

	very comfortable	comfortable	uncomfortable
Age <= 20	34	8	0
21 <= Age <= 25	59	32	9
26 <= Age <= 30	26	14	2

31 <= Age <= 35	2	1	0
35 > Age	1	0	1
Total	122	55	12

34 (17.2%) students of age 20 and below said they feel very comfortable using computer at the university while 8 (4.0%) said they do feel normal using the computer at the university and none of the students are uncomfortable, 92 (29.9%) students of age within 21-25 feel comfortable using the computers at the university while 9 (4.5%) do not feel comfortable using the computer at the university and 40 (20.3%) students of age within 21-25 feel comfortable using the computers at the university while 2 (1%) do not feel comfortable using the computer at the university.

Table 12. Age and how ICT help the students to show the way they are

Age	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Age <= 20	15	9	12	2	4
21 <= Age <= 25	18	22	26	26	10
26 <= Age <= 30	7	8	10	16	1
31 <= Age <= 35	1	0	2	0	0
35 > Age	2	0	0	0	0
Total	43	39	50	44	15

24 (13.7%) students of the age 20 and below strongly disagree ICT help to show them the way they are while 12 (6%) students is just neutral and 6 (3) agreed that ICT helps to show them the way they are. 40 (20.3%) students of the age within the

21-25 strongly disagree that ICT helps to show them the way they are while 26 (13.1%) said it neutral, then 36 (18.2%) students strongly agree.

4.3 Anova of how internet can be used at home

13. Anova of how internet can be used at home

	Sig.
At home	**.017**
Other (like Internet cafes, etc.)	**.006**
Searching for information	**.002**
Preparing and making presentations	**.006**
Communicating online with other students	**.032**
Inadequate technical support for instructors	**.016**
The uncertainty of how beneficial ICT is in teaching	**.048**

4.3.1 Crosstabulations of how internet can be used at home and questionnaires

Table 14. How long students use computers in classrooms per week and how they use computer at home

	daily	2 or 3 time a week	once a week	once a month	never
0 - 30 Minutes a week	39	9	1	1	2
31 - 60 minutes a week	28	5	2	0	2
more than 60 minutes a week	89	8	3	0	1
Total	156	22	6	1	5

39 (19.7%) students said they spend 0-30 minutes time a week to study during classroom lessons, 9 (4.5%) said they used it 2 to 3 times a week and 2 (1.1%) said they never used it. 28 (14.2%) students said they spend 31-60 minutes using computer to study in classrooms, 5 (2.5%) said they used computer daily to study at

home 2 or 3 times a week, 15 (7.6%) said they spend 31-60 minutes to study at home in 2 or 3 times a week while 2 (1.1%) never spend time studying at home. 89(45.1%) students spend more than 60 minutes a week studying at home daily while 5 (2.5%) in 2 or 3 times a week.

Table 15. How long students use computers in classrooms per week and how students use computers in Internet cafes

	Daily	**2 or 3 time a week**	**once a week**	**once a month**	**never**
0 - 30 Minutes a week	11	6	4	7	22
31 - 60 minutes a week	6	7	3	7	12
more than 60 minutes a week	32	10	9	14	32
Total	49	23	16	28	66

11 (5.5%) students said they spend 0-30 minutes a week to use computer at the cafes daily while 22 (11.1%) never use the internet cafes. 32 (16.2%)spend more than 60 minutes daily at internet cafes while 32 (16.2) said they never spend that time at the internet cafe.

Table 16. How long students use Computers in classrooms per week and if they use it to search for information

	Yes	**No**	**Total**
0 - 30 Minutes a week	50	2	52
31 - 60 minutes a week	36	0	36
more than 60 minutes a week	98	4	102
Total	184	6	

50 (26.3) students said they use 0-30 minutes a week using the computer to search for information while 2 (1.1) said they do not use. In 31-60 minutes a week, 36 (18.2%) students used computer to search for information, 98 (49.7%) students said they spend more than 60 minutes a week using computer to search for information.

Table 17. How long students use Computers in classrooms per week and how they use computer in preparing and making presentations

	Yes	No	Total
0 - 30 Minutes a week	47	5	52
31 - 60 minutes a week	34	2	36
more than 60 minutes a week	91	10	101
Total	172	17	

In 0-30minutes a week, 47 (23.8%) students use computer to make presentation while 5(2.5%) said no. 34 (17.2%) students spend 31-60 minutes a week to make presentations with computer while 91 (46.1%) students spend more than 60 minutes a week to make presentations with computers.

Table 18. How long students use computers in classrooms per week and how they use computer to communicate with friend online

	Yes	No	Total
0 - 30 Minutes a week	46	5	51
31 - 60 minutes a week	35	1	36
more than 60 minutes a week	97	5	102
Total	178	11	

46 (23.3) students spend 0-30 minutes a week to communicate online with other students while 5 (2.5%) said no, 35 (17.7%) students spend 31-60 minutes a week to communicate with other students while online just 1 (0.5) said no and 97 (49.2%) students spend more than 30minutes a week to communicate with other student online while 5 (2.5%) said no.

Table 19. How long students use computers in classrooms per week and if the teacher shave enough technical support

	alot	**some**	**little**	**not at all**
0 - 30 Minutes a week	7	12	21	12
31 - 60 minutes a week	4	13	11	5
more than 60 minutes a week	25	40	22	15
Total	36	65	54	32

25 (12.6%) students said in more than 60 minutes a week, there are a lot of insufficient technical support of the teachers, 40 (20.3%) said some are insufficient, 22 (11.6%) said just little insufficient support, 15 (7.6%) said not at all.

Table 20. How long students use computers in classrooms per week and the uncertainty of how beneficial ICT is in teaching

	alot	**some**	**little**	**not at all**
Yes	25	47	47	48
No	2	8	8	7
Total	27	55	55	55

25 (12.6%) students said there are a lot of uncertainty of how beneficial ICT is in Teaching, 47 () said just some, 47 () said little while 48 () said not at all.

4.4 Avova of class and questionnaire items

Table 21. Avova of class and questionnaire items

questionnaire items	**Sig.**
Have you used/are you using ICT in your work/with your classes?	**.039**
ICT assists me in evaluating my progress in the subject better	**.010**
With ICT I do my academic homework faster	**.045**
With ICT I do my academic homework better	**.032**
Insufficiency of material for teaching	.038

4.4.1 Crosstabulations of class

Table 22. Class and if the students use ICT tools in their classrooms / work

	Yes	**No**	**Total**
First year	7	6	13
second year	37	14	51
third year	40	23	63
forth year	18	20	38
Graduate student	23	6	29
Total	125	69	

7 (3.5%) first year students agree they use ICT in their work and in their classes while 6 (3%) said no, 37 (18.7%) second year agreed they use ICT in their work and in their classes, while 14 (7.1%) said no, 40 (20.3) third year agree they use ICT in their work and in their classes while 23 (11.6%) said no, 18 (9.1%) forth year agreed

they use ICT in their work and in their classes while 20 (10.1%) said no 23 (11.6%) graduate students also used ICT in their work in their classes while 6 (3%) said no.

Table 23. Class and if ICT help the students to do their work faster

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
First year	2	0	3	5	3
second year	8	6	10	16	8
third year	9	11	14	18	12
forth year	6	4	12	9	8
Graduate	0	3	2	15	9
Total	25	24	41	63	40

79 (40.1%) undergraduate students in total agreed that ICT help them to do their academic work faster, 46 (23.3%) disagreed. Also 24 (12.1%) graduate students agree ICT help them to do their academic work faster while 49 (24.8%) disagreed.

Table 24. Class and if ICT help the students to do their academic work better

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
First year	2	1	2	5	3
Second year	7	8	8	15	10
Third year	10	6	19	18	11
Forth year	4	4	14	6	11
Graduate	0	3	1	14	10
Total	23	22	44	58	45

79 (40.1%) undergraduate students in total agreed that ICT help them to do their academic work better while 42 (21.3%) disagree then 43 (21.8%) are neutral about It. 24 (12.1%) graduate students agree that ICT help them to their academic work better while 45 (22.8%) disagree then 44 (22.3%) were neutral.

Table 25. Class and the inadequacy of computers / materials content in the university

	Alot	some	little	not at all
First year	2	6	2	3
Second year	9	13	10	16
Third year	14	23	16	11
Forth year	6	15	11	7
Graduate	4	4	7	13
Total	35	61	46	50

16 (8.1%) students (second year) said there is no lack of academic content/material for teaching while 9 (4.5%) students said there are a lot of inadequate content/material for teaching, 13 (6.5%) graduate students do not see any lack of inadequate content/material for teaching while 4 (2.0%) found a lot of inadequate content/material for teaching.

Table 26. Class and Insufficiency of material for teaching

Class	**alot**	**some**	**little**	**not at all**
First year	2	6	2	3
second year	9	13	10	16
third year	15	23	16	11
forth year	6	15	11	7
Graduate student	4	4	7	13
Total	36	61	46	50

36 (18.2%) students in total said there are a lot of insufficiency of materials for teaching, 61 (30.1%) said some, 46 (23.3%) said little and 50 (25.3%) said not at all do they have insufficiency of materials for teaching.

4.5 Anova of how much time student spend using computer outside the school and questionnaire items

Table 27. Anova of how much time student spend using computer outside the school and questionnaire items

	Sig.
At the university (computer lab or library)	**.003**
Communicating online with friends	**.007**
Are you registered to any ICT courses?	**.045**
Use e-mail	**.028**
Browse the Internet for your work at the university	**.013**
Pressure of exam and test based curriculum	**.036**

4.5.1 Crosstabulations of how much time student spend using computer outside the school

Table 28. Crosstabulations of how much time student spend using computer outside the school and at the University

	daily	**2 or 3 time a week**	**once a week**	**once a month**	**never**
Never used computer outside classroom	9	11	3	4	10
About half an hour a week	6	2	4	5	3
About an hours a week	7	5	10	0	4
About two an hour a week	3	8	3	1	1
About three hours a week	7	5	4	1	3
About four hours a week	30	21	7	2	3
Total	62	52	31	13	24

30 (15.2%) students said they used computer at the university for about four hours daily in a week, 21 (10.6%) said about 4 hours 2 or 3 times a week, 7 (3.5%) spend 4 hours once a week, 2 (1.1%) said 4 hours a week in a month, while 3 (1.5%) said they never used computer at the university for this purpose.

Table 29. How much time student spend using computer outside the school and communicating online with teachers

	Yes	**No**
Never used computer outside classroom	33	4
About half an hour a week	17	3
About an hours a week	21	5
About two an hour a week	16	3
About three hours a week	9	9
About four hours a week	53	12
Total	149	36

33 (16.7%) students said they never used computer outside the classrooms to communicate with teachers online, 17 (8.6%) said they use computer for about half an hour a week to communicate online with teachers, 21 (10.6%) said they used about one hour, 16 (8.1%) said about 2 hours, 9 (4.5%) said about 3 hours and 53 (26.9%) said about 4 hours a week. 53 (26.9%) total students do not use computer for this purpose.

Table 30. How much time student spend using computer outside the school and communicating online with friends

	Yes	No
Never used computer outside classroom	32	4
About half an hour a week	18	2
About an hours a week	24	1
About two an hour a week	19	0
About three hours a week	15	4
About four hours a week	67	0
Total	175	11

32 (16.2%) students said they never used computer outside classroom to communicate online with friends while 67 (34%) said they spend about 4 hours a week to communicate online with friends.

Table 31. How much time student spend using computer outside the school and if the students have registered for ICT course.

	Yes	**No**
Never used computer outside classroom	18	20
About half an hour a week	4	16
About an hours a week	9	17
About two an hour a week	5	12
About three hours a week	13	7
About four hours a week	20	48
Total	67	120

18 (9.5%) students said they never used computer outside the classroom to do any ICT courses while 20 (10.1%) said they spend about four hours a week to use do ICT courses.

Table 32. How much time student spend using computer outside the school and using email at the university

	Never	**1 or 2 times a month**	**1 or 2 times a week**	**Every day**
Never used computer outside classroom	12	11	8	7
About half an hour a week	4	6	8	2
About an hours a week	6	9	5	3
About two an hour a week	2	9	5	3
About three hours a week	2	8	7	3
About four hours a week	6	19	19	22
Total	32	62	52	40

12 (6%) students said they never used computer outside the classroom to email out at the university, 4 (2%) spend about half an hour a week and 6 (3%) spend about four hours a week to use email at the university.

Table 33. How much time student spend using computer outside the school and browse the internet for university work

	Never	1 or 2 times a month	1 or 2 times a week	Every day	Total
Never used computer outside classroom	11	8	10	9	38
About half an hour a week	2	6	7	5	20
About an hours a week	3	8	7	5	23
About two an hour a week	2	6	8	3	19
About three hours a week	4	3	7	6	20
About four hours a week	4	11	22	30	67

Total	26	42	61	58	

11 (5.5%) students never used computer outside classrooms to browse the internet for university work, 7 (3%) spend half an hour 1 or 2 times a week, 3 spend about 1 hour every day, 7 (3%) spend about 3 hours 1 to 2 times a week to browse the internet for university work, and 30 (15%) spend about four hours every day for this purpose.

Table 34. How much time student spend using computer outside the school and Pressure of exam and test based curriculum

	alot	some	little	not at all
Never used computer outside classroom	9	11	12	7
About half an hour a week	2	1	10	7
About an hours a week	0	13	9	2
About two an hour a week	9	2	3	5
About three hours a week	7	4	6	3
About four hours a week	13	27	18	8
Total	40	58	58	32

40 (20.3%) students in total said there are a lot of pressure of exam and test based curriculum, 58 (29.4%) said some, 58 (29.4%) said little and 32 (16.2%) said not at all do they have pressure of exam and test based curriculum.

4.6 Anova of department with the questionnaire items

Table 35. Anova of department with the questionnaire items

	Sig.
Preparing and making presentations	**.008**

ICT creates a nice atmosphere in the classroom	**.017**
With ICT I develop skills related to the subject	**.000**
Inadequate technical support for instructors	**.027**

4.6.1 Crosstabulations of Department

Table 36. Department and using computer to make presentations

Department	**Yes**	**No**	
IT	38	3	41
Pharmacy	1	0	1
Economics	6	0	6
Banking and Finance	10	0	10
International Relations	9	1	10
Mechanical Engineering	23	1	24
Industrial Engineering	6	0	6
Business	6	2	8
Tourism	6	0	6
Computer Engineering	6	0	6
ICT	2	1	3
M.B.A	2	0	2
Management information System	4	1	5
Law	1	0	1
CITE	2	0	2
Communication and media	0	2	2
Visual Art	0	1	1
Education	1	0	1
Accounting	1	0	1
Electric and Electronic Engineering	4	2	6
Political Science	1	0	1
Public Admin	1	0	1
Finance	1	0	1
Physiotherapy	3	0	3
Health Management	2	0	2
Primary Teacher Education	2	0	2
Werwik Management Group	1	0	1
PDR	4	0	4
Marketing Management	1	0	1
Pedagogic Formation	5	1	6
Civil Engineering	1	1	2

Supply chain and logistic	1	0	1
Public Relation and Advertising	2	0	2
Class Teacher Education	1	0	1
Human Resources Management	0	1	1
Applied Mathematics and Computer Science	2	0	2
Marketing	1	0	1
Interior Architecture	4	0	4
Computer Aided Accounting	3	0	3
International Trade and Business	4	0	4
Business Administration	1	0	1
Food and Nutrition	1	0	1
Accounting and Tax Management	1	0	1
Dietetics	171	17	
Total			

38 (19.2%) students in IT department said they use computer to make presentations, 23 (11.6%) students from mechanical only 17 (8.6%) total from all departments said they do not use computer to make presentations.

Table 37. Department and how ICT help to generate good pleasant atmosphere in the classrooms

Department	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
IT	5	7	13	15	4	44
Pharmacy	0	0	1	0	0	1
Economics	2	2	2	0	0	6
Banking and Finance	0	0	6	4	0	10
International Relations	2	1	3	3	1	10
Mechanical Engineering	3	7	6	5	1	22
Industrial Engineering	1	1	2	1	0	5
Business	2	1	2	2	1	8
Tourism	2	2	1	1	0	6
Computer Engineering	0	3	2	1	0	6
ICT	0	1	0	1	1	3
M.B.A	0	0	1	0	1	2
Management information System	0	1	2	2	0	5
Law	0	1	0	0	0	1

CITE	0	0	0	2	0	2
Communication and media	0	2	0	0	0	2
Visual Art	1	0	0	0	0	1
Education	1	0	0	0	0	1
Accounting	1	0	0	0	0	1
Electric and Electronic Engineering	0	1	2	1	2	6
Political Science	0	0	0	1	0	1
Public Admin	0	0	1	0	0	1
Finance	0	0	0	0	1	1
Physiotherapy	0	3	0	0	0	3
Health Management	0	0	2	0	0	2
Primary Teacher Education	1	0	0	0	0	1
Werwik Management Group	1	0	0	1	0	2
PDR	1	2	0	1	0	4
Marketing Management	0	0	0	1	0	1
Pedagogic Formation	0	1	2	3	0	6
Civil Engineering	0	2	0	0	0	2
Supply chain and logistic	0	0	0	1	0	1
Public Relation and Advertising	0	0	2	0	0	2
Class Teacher Education	0	1	0	0	0	1
Human Resources Management	0	0	0	1	0	1
Applied Mathematics and Computer Science	0	0	1	1	0	2
Marketing	0	0	0	1	0	1
Interior Architecture	1	1	1	1	0	4
Computer Aided Accounting	0	0	1	2	0	3
International Trade and Business	0	0	0	1	3	4
Business Administration	0	0	0	0	1	1
Food and Nutrition	0	0	0	1	0	1
Accounting and Tax Management	0	0	0	1	0	1
Dietetics	0	1	0	0	0	1
Total	24	41	53	55	16	

15 (7.6%) IT students agree that ICT helps to generate a pleasant atmosphere in the classrooms while 7 (3%) disagree, also 5 (2.5%) students also strongly disagree, 4 (2%) strongly agree while 13 (6.5%) are just neutral.

Table 38. Department and how ICT help the students to develop their skills related to the subject

Department	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
IT	2	8	10	16	8	44
Pharmacy	0	0	0	0	1	1
Economics	1	1	1	2	1	6
Banking and Finance	0	0	5	2	3	10
International Relations	1	1	1	6	1	10
Mechanical Engineering	4	6	5	2	5	22
Industrial Engineering	2	0	1	2	0	5
Business	0	2	1	2	2	7
Tourism	0	0	0	4	2	6
Computer Engineering	1	3	0	2	0	6
ICT	0	1	0	0	2	3
M.B.A	0	0	0	2	0	2
Management information System	0	0	3	1	1	5
Law	0	0	0	0	1	1
CITE	0	0	2	0	0	2
Communication and media	2	0	0	0	0	2
Visual Art	0	1	0	0	0	1
Education	1	0	0	0	0	1
Accounting	0	0	0	0	1	1
Electric and Electronic Engineering	1	0	5	0	0	6
Political Science	0	0	0	1	0	1
Public Admin	0	0	1	0	0	1
Finance	0	0	0	0	1	1
Physiotherapy	1	0	2	0	0	3
Health Management	0	0	1	0	1	2
Primary Teacher Education	1	1	0	0	0	2
Werwik Management Group	0	1	0	0	1	2
PDR	2	1	0	1	0	4
Marketing Management	0	0	1	0	0	1
Pedagogic Formation	0	3	0	2	1	6
Civil Engineering	0	0	1	1	0	2
Supply chain and logistic	0	0	0	1	0	1
Public Relation and Advertising	0	0	2	0	0	2
Class Teacher Education	0	0	0	0	1	1
Human Resources Management	0	0	0	1	0	1

Applied Mathematics and Computer Science	0	0	1	0	1	2
Marketing	0	0	0	1	0	1
Interior Architecture	1	0	1	0	2	4
Computer Aided Accounting	0	0	1	1	1	3
International Trade and Business	0	1	1	2	0	4
Business Administration	0	0	1	0	0	1
Food and Nutrition	0	0	0	1	0	1
Accounting and Tax Management	0	0	0	1	0	1
Dietetics	0	1	0	0	0	1
Total	20	31	47	54	37	

16 (8.1%) students from IT department said ICT helps to develop skills related to the subject while 8 (4%) disagree. Also 8 (4%) students strongly agree while 2 (1%) strongly disagree that ICT help to develop skills related to the subject.

Table 39. Department and if there are insufficient technical support for teachers

Department	**alot**	**some**	**little**	**not at all**	**Total**
IT	4	14	13	12	43
Pharmacy	0	0	1	0	1
Economics	1	3	0	2	6
Banking and Finance	1	5	2	2	10
International Relations	1	2	5	2	10
Mechanical Engineering	9	8	2	3	22
Industrial Engineering	0	2	2	0	4
Business	0	3	3	2	8
Tourism	0	3	3	0	6
Computer Engineering	1	3	1	1	6
ICT	1	0	2	0	3
M.B.A	0	1	1	0	2
Management information System	2	2	1	0	5
Law	1	0	0	0	1
CITE	1	1	0	0	2
Communication and media	0	0	2	0	2
Visual Art	1	0	0	0	1
Education	0	1	0	0	1
Accounting	1	0	0	0	1

Electric and Electronic Engineering	0	3	1	0	4
Political Science	0	0	0	1	1
Public Admin	0	0	1	0	1
Finance	1	0	0	0	1
Physiotherapy	0	0	3	0	3
Health Management	0	1	1	0	2
Primary Teacher Education	1	1	0	0	2
Werwik Management Group	1	0	1	0	2
PDR	3	1	0	0	4
Marketing Management	0	0	0	1	1
Pedagogic Formation	1	3	1	1	6
Civil Engineering	0	0	2	0	2
Supply chain and logistic	0	1	0	0	1
Public Relation and Advertising	2	0	0	0	2
Class Teacher Education	1	0	0	0	1
Human Resources Management	0	0	0	1	1
Applied Mathematics and Computer Science	1	1	0	0	2
Marketing	0	0	1	0	1
Interior Architecture	0	2	2	0	4
Computer Aided Accounting	0	1	1	1	3
International Trade and Business	1	0	2	1	4
Business Administration	0	0	0	1	1
Food and Nutrition	0	0	1	0	1
Accounting and Tax Management	0	0	0	1	1
Dietetics	0	1	0	0	1
Total	36	63	55	32	

14 (7.1%) students from the IT department said there are a lot if insufficient technical support for the teachers, 14 (7.1%) said some, and 13 (6.5%) said just little and 12 (6%) said not at all do they find any insufficient technical support for the teachers.

4.7 T-Test of Gender and questionnaires items

Table 40. T-test of Gender and questionnaire items

	Sig. (2-tailed)
Chat on line	**.020**
ICT facilitates my relationships with the group socially	**.024**
ICT helps me to obtain subject related knowledge	**.007**
I require the need to access ICT when I need more about a topic	**.018**

4.7.1 Crosstabulations of Gender

Table 41. Gender and how students use computers to chat online at the university

	Never	**1 or 2 times a month**	**1 or 2 times a week**	**Every day**	**Total**
Male	56	37	21	24	138
Female	15	11	12	14	52
Total	71	48	33	38	

56 (28.4%) males said they never use computer to chat online at the university, 14 (7.1%) female too. 24 (12.1%) male and 12 (6%) female use this every day.

Table 42. Gender and if ICT help the students to facilitates their social relationship with the group

	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**	**Total**
Male	20	29	38	45	8	140
Female	5	8	12	19	8	52
Total	25	37	50	64	16	

41 (20.8%) males and 17 (8.6%) females agree that ICT facilitates their social relationship with the academic group.

Table 43. Gender and if ICT help the students to gain knowledge related to the subject

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Male	23	18	30	50	19	140
Female	3	6	8	20	16	53
Total	26	24	38	70	35	193

50 (25.3%) males and 17 (8.6%) females agree that ICT help them to gain knowledge related to the subjects. 18 (9.1%) males and 6 (3.0%) females disagreed.

Table 44. Gender and how ICT help the students to know when they want to know well about the topic

Gender	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Male	17	25	32	38	28
Female	3	7	7	20	16
Total	20	32	39	58	44

38 (19.2%) males' ad 18 (9.1%)females agree that they use ICT when they want to know more about the topic, 2 (1%) males and 7 (3%) females disagreed. 17 (8.6%) males and 2 (1%) females strongly disagreed, 28 (14.2%) males and 14 (7.1%) females strongly agreed.

4.8 T-Test of GPA and the questionnaire items

Table 45. T-Test of GPA and the questionnaire items

	Sig.
At home	**.003**
Searching for information	**.010**
Communicating by emails with educational authorities	**.001**
ICT makes the teacher pay more attention to us	**.019**
ICT guides the teacher in the working methodology	**.000**
ICT guides me with the plan of my work	**.036**
I prefer it better when teachers use ICT in the subjects	**.045**
With ICT I can exchange ideas with my colleagues	**.005**

4.8.1 Crosstabulations of GPA

Table 46. GPA and how students use computers at home

	daily	**2 or 3 time a week**	**once a week**	**once a month**	**never**
0 >= GPA < 1	5	2	1	0	1
1 >= GPA < 2	8	1	1	0	1
2 >= GPA < 3	43	6	0	0	1
3 >= GPA <= 4	100	13	4	1	2
Total	156	22	6	1	5

76 (38%) students with the GPA within 2 to 3 use computers at home and 43 (21.8%) of the students who their GPA is in between 2.0 – 3.0 use computer at home.

Table 47. GPA and how students use computer to search for information

	Yes	**No**
0 >= GPA < 1	7	2
1 >= GPA < 2	11	0
2 >= GPA < 3	48	2

3 >= GPA <= 4	120	2
Total	186	6

89 (45.1%) student of the GPA within 3.0 to 4.0 said they use computer to search for information with computer while 48 (24.3%) student of the age within 2.0 to 3.0 use computer to search for information.

Table 48. GPA and students use computer to communicate by emails with the educational authorities

	Yes	**No**	Total
0 >= GPA < 1	7	2	9
1 >= GPA < 2	9	2	11
2 >= GPA < 3	41	10	51
3 >= GPA <= 4	110	10	120
Total	167	24	

81 (41.1%) student of the GPA within 3.0 to 4.0 said they use computer to communicate by emails with the educational authorities while 41 (20.8%) student of the age within 2.0 to 3.0 use computer to use computer to communicate by emails with the educational authorities.

Table 49. GPA and ICT makes the teacher pay more attention to us

GPA	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
0 >= GPA < 1	1	3	3	2	0
1 >= GPA < 2	2	3	2	3	0
2 >= GPA < 3	8	9	15	14	3
3 >= GPA <= 4	13	22	44	35	11
Total	24	37	64	54	14

35 (17.7%) with the GPA within 0-1 strongly disagree that ICT helps the teacher to pay more attention to the students, 46 (23.3%) students agree while 64 (32.4%) were just neutral about it.

Table 50. GPA and if ICT help the teacher to guild their working methodology

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
0 >= GPA < 1	2	3	3	1	0
1 >= GPA < 2	1	3	2	3	1
2 >= GPA < 3	5	11	15	16	3
3 >= GPA <= 4	13	12	36	43	19
Total	21	29	56	63	23

32 (16.2%) students of GPA within 3.0 to 4.0 agree that using ICT help the teachers to guild their working methodology while 16 (8.1%) students of GPA within 2.0 to 3.0 also agree about it. Also 27 (13.7%) students of GPA within 3.0 to 4.0 were neutral that using ICT help the teachers to guild their working methodology while 16 (8.1%) students of GPA within 2.0 to 3.0 also were neutral about it.

Table 51. GPA and if ICT help the students to plan their work

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
0 >= GPA < 1	1	5	1	0	2	9
1 >= GPA < 2	2	1	2	3	2	10
2 >= GPA < 3	8	7	14	16	5	50
3 >= GPA <= 4	12	16	40	39	17	124
Total	23	29	57	58	26	

32 (16.2%) students of GPA within 3.0 to 4.0 agree that using ICT help them to plan their work while 16 (8.1%) students of GPA within 2.0 to 3.0 also agree about it. Also 30 (15.2%) students of GPA within 3.0 to 4.0 were neutral that using ICT help the students to plan their work while 16 (8.1%) students of GPA within 2.0 to 3.0 also were neutral about it.

Table 52. GPA and if students want the teachers to use ICT in their subjects

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
0 >= GPA < 1	2	2	0	3	2	9
1 >= GPA < 2	2	2	3	1	2	10
2 >= GPA < 3	4	13	9	14	9	49
3 >= GPA <= 4	7	18	27	47	24	123
Total	15	35	39	65	37	

35 (17.7%) students of GPA within 3.0 to 4.0 agree that teachers should use ICT tools in their subject while 14 (7.1%) students of GPA within 2.0 to 3.0 also agree about it. Furthermore, 4 (2%) students of GPA within 3.0 to 4.0 were neutral that teachers should use ICT tools in their subject while 9 (4.5%) students of GPA within 2.0 to 3.0 also were neutral about it.

Table 53. GPA and if ICT help the students to exchange ideas with their colleagues

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
0 >= GPA < 1	2	1	1	3	2
1 >= GPA < 2	1	2	1	3	3
2 >= GPA < 3	10	5	12	14	8
3 >= GPA <= 4	11	14	32	47	20

Total	24	22	46	67	33

47 (23.8%) students of GPA within 3.0 to 4.0 agree that ICT help them to exchange ideas with other colleagues while 14 (7.1%) students of GPA within 2.0 to 3.0 also agree about it. Furthermore, 32 (16.2%) students of GPA within 3.0 to 4.0 were neutral that ICT help them to exchange ideas with other colleagues while 12 (6%) students of GPA within 2.0 to 3.0 also were neutral about it.

4.9 T-Test of if students have computer at home and Questionnaires

Table 54. T-Test of if students have computer at home and questionnaire items

	Sig. (2-tailed)
At home	**.000**
Communicating online with friends	**.021**
Do you have any special training in ICT given to you by your institution	**.009**
Is there a computer lab at your university	**.015**
ICT assists me in evaluating my progress in the subject better	**.034**

4.9.1 Crosstabulations of if students have computer at home

Table 55. Crosstab between if the students have a computer at home and how they use it at home

	daily	**2 or 3 time a week**	**once a week**	**once a month**	**never**
Yes	151	18	3	1	2
No	5	4	3	0	3
Total	156	22	6	1	5

151 (76%) students said they use computer in their home daily, 18 (9.1%) said 2 to 3 times a week, 3(1.5%) said they use it once a week, 1(0.5%) said once a month and 2 (1%) said they use computer at home.

Table 56. Crosstab of If the students has a computer at home and how they use it to communicate with friends online

	Yes	No	Total
Yes	166	8	174
No	14	3	17
Total	180	11	

166 (84.2%) students said they use computer to communicate online with friends while 14 (7.1%) do no not use computer for this purpose.

Table 57. Crosstab of if the students has computers at home and if they do have any special ICT training giving by their institution

	Yes	No
Yes	83	95
No	3	14
Total	86	109

83 (42.1%) students said the institution has given them special training in ICT while 95 (48.2%) said no.

Table 58. Crosstab if the student has a computer at home and if they do have computer labs in their school

	Yes	No
Yes	146	32
No	10	7

Total	156	39

146 (74%) students said they do have computer lab in their department at the university while 32 (16.2%) said no.

Table 59. Crosstab if the student has a computer at home and if ICTassists them in evaluating their progress in the subject better

	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Yes	20	29	36	71	20
No	4	1	6	3	0
Total	24	30	42	74	20

20 (10.1%) students strongly disagree that ICT allow them to better evaluate their progress in the subject, 29 (14.7%) disagreed, 36 (18.2%) were neutral, 71(36%) students agreed and 20 (10.1%) students strongly agree.

4.10 T-test for dependent variable questions

Table 60. T-test for "if the students have internets at home"

	Sig. (2-tailed)
At home	**.000**
Communicating online with friends	**.007**
Is there a computer in your classrooms	**.023**
Is there a computer lab at your university	**.000**
Are there any assistants to team teach with you	**.001**
Not enough computers	**.040**

4.10.1 Crosstabulation of if the students have internets at home

Table 61. If the students have internet at home and how they use computer at home

	daily	2 or 3 time a week	once a week	once a month	never
Yes	143	17	3	1	1
No	13	5	3	0	4
Total	156	22	6	1	5

143 (72.5%) students said they use internet on their computer at home daily while 13 (6.5%) student said no.

Table 62. If the students have internet at home and how they use computer to communicate with friend online

	Yes	No
Yes	158	7
No	22	4
Total	180	11

158 (80.1%) students said they use computer to communicate online with friends while 22 (11.1%) said no.

Table 63. If the students have internet at home and if they do have computer in their classrooms

	Yes	No
Yes	118	47
No	15	11
Total	133	58

118 (59.8) students said they do have computer in their classroom while 15 (7.6%) do not.

Table 64. If the students have internet at home is there a computer lab at your university

	Yes	**No**
Yes	142	28
No	14	13
Total	156	41

156 (79.1%) students in total said they use Computer lab at the university while 41 (20.8%) said no

Table 65. If the students have internet at home and if they do have special ICT training given to them by their institution

	Yes	**No**
Yes	79	90
No	7	19
Total	86	109

79 (40%) students said the institution has given them training in ICT while 7 (6%) students said no.

Table 66. If the students have internet at home and if there is any assistant to teach them

	Yes	**No**
Yes	99	70
No	7	19
Total	106	89

99 (50.2) students said they do have assistants who team teach them while 7 (3.5%) do not.

Table 67. If the students have internet at home and if there are enough computers in the university Crosstabulation

	a lot	**some**	**little**	**not at all**
Yes	41	67	42	15
No	11	11	2	1
Total	52	78	44	16

67 (33.9%) students said there are some insufficient number of computers in the school, 11 (5.5%) said they are a lot of insufficient number of computer.

Chapter 5

DISCUSSION AND CONCLUSION

5.1 How is ICT used in education

In the research, it was found out that Information and communication technology play very important role in today education. It is widely believed that the use of ICT in education enable students to do their school work rapidly, making the school work more flexible for both the instructors and the students. There are so many ways Information and communication Technology is used in education. For example, when asked the students their perception of how they use ICT tools in their academic task, some said it helps to create a pleasant atmosphere in the classrooms. This basically means the use of ICT cause better communication in classrooms, students no longer need to go to class with big text books and writing much notes in classrooms instead they study in class with computer whereby the lectures are presented on a projector screen, lectures are carried out using ICT tools. Also it was found that using ICT in institution (like Eastern Mediterranean University) makes students to do their academic homework faster and better. This relate with how they use ICT tools outside the classrooms or at home whereby students browse the internet for school work, students can download, upload and browse materials from the university websites or on the internet, students can use computer for group work and communicate with other students, students and teachers also communicate online, communicate with other friends or course mates which makes them share ideas and thought between themselves outside the classrooms. Using these ICT tools

makes work more easier for the students, especially when the student communicate with teachers and their fellow students which can be done using social networks, learning systems like Moodle etc.

In conclusion Information and Communication technology is something that should not be left out in schools. ICT gives the instructors the opportunity to conform to their teaching and the students to have the willingness to learn more. The use of information and communication technology has improved the learning approach in educational sector which also contribute to the constructivism of learning and helps the instructors and the students to improve more in activities such as discussion board, forum, and social networks chatting. ICT also makes the education centered for the student with a self-learning atmosphere which enables the students to customize their educational experience. Technologies are now impelling every aspects of life in today education. They are promoting changes, help to handle and share information and promote teaching and learning approach. ICTs are really making transformations in teaching and also the ways the students learn. It makes the learning environment active, collaborative, integrative, creative and making evaluative learning as an improvement over the traditional education.

5.2 Does ICT help the students to learn better

Information and Communication technology has created an environment which enable the students to learn better and faster. When the result of the survey analyzed carried out in the university (Eastern Mediterranean University), when asked how ICT help the students to explain their problems to the teachers, more than 30% agree for this. This can be as communication online between the teachers and the students. Also when asked if ICT make is easier for the students to pass the course, 30% of the

students agree ICT makes it easier to pass the course. It was also asked and found out that ICT help the students to do their academic work faster and better. In total, approximately 63% of the students agree that using ICT makes their academic work faster and better. These shows that the implementation of IT in educations helps the student to learn better and faster, makes education more flexible for the students.

5.3 Are there Any Challenges

The implementation of ICT into education system seems to face various challenges in regards to the policy, the ICT tools, planning and structure, the learning contents and materials, the capacity building and the capital to set it up, effective uses of the ICT tools. When asked the students on how the school capacity to provide ICTs teaching and learning, some students said there are lack of skills of teacher in some departments. This causes a challenge to the learning and teaching content. This relates with the respect to the capacity building challenge. If the teachers do not use the ICT tools effectively, there no way it can make the education more interesting for both the teachers and the students. The skill gap is one of the factor of integrating ICT successfully in education. Some students also said when surveyed that some of the department computers in the school are out of date and or need repair. This can be for example, the operating system whereby the software used to deliver the course content can’t be installed on old operating system like windows xp where the world now use windows 8. If there is no computers in the school or no course content can be delivered to students in schools, it is a challenge for the effective utilization of ICTs. It is wise to specify the instructional goal at different education and training levels and modalities of ICTs that can simplifies in the pursuits of educational goals.

The structure challenges that may be influence the education are the absence of the computer labs or computer rooms in school, shortage of electricity, no internet or very slow internet, lack of learning software. For example, when asked the students, 8.6% of the students said they do not have computer lab in their departments. Also when asked some students if they do have PC in their classrooms, 5.6 student said they do not have PC in their classrooms. These show that there is still a need to improve the effective use of ICT in education. Building computer labs in school is something that should not be overlooked in today education in order for ICT to be implemented effectively in education.

5.4 Will It Change Anything If You Terminate the Role of ICT in Education

Terminating the use Information and communication technology might cause educational breakdown in the sense that there will be no flexibility anymore. Obviously if the use of ICTs in education is terminated, students will no longer use computer to learn instead they will go back to use big heavy textbooks, no computer and projectors to display the course content in class, students won't be able to communicate with other students and teachers online, browse the internet for information in schools etc.

In today century, terminating ICT in education is something that is impossible for it has gone far a long way to go back to the traditional education style. Instead, institutions should fine every possible way to implement the effective use of Information and Communication technology into their curriculum as the world is growing into a digital society.

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APPENDIX

Questionnaire

Information and Communication Technology (ICT) in Education

1) Department:					
2) Year:					
3) Sex:	a) Male	b) Female			
4) GPA:					
5) CGPA:					
6) Age:	a) <= 20	b) 21 - 25	c) 26 - 30	d) 31 - 35	e) > 35

Computer use at Home

7) Is there a computer at home? a) Yes b) No

8) Do you have Internet at home? a) Yes b) No

9) How long do you use the computer in your classroom lessons per week?

a) 0 – 30 minutes a week b) 31 – 60 minutes a week c) more than 60 minutes a week

10) While at the university, how long do you use the computer apart from your classroom lessons, e.g. in library or computer room? (pick one)

a) I never use the computer at the university outside classroom lessons
b) About half an hour per week
c) About an hour per week
d) About two hours per week
e) About three hours per week
f) About four or more hours per week

General use of Computers

11) how often do you use the computer in the following:	Daily	2 or 3 times a week	Once a week	Once a month	Never
At home					
At the university (computer lab or library)					
Other (like Internet cafes, etc.)					

12) Do you need your computer for the following?	Yes	No
Searching for information		
Preparing and making presentations		
Communicating online with teachers		
Communicating online with other students		
Communicating online with friends		

Communicating online with parents		
Communicating by emails with educational authorities		

Computer usage at University

13) Is there an ICT Room at your department? A) Yes b) No

14) Is there a computer in your classrooms? a) Yes b) No

15) How capable are you in using computers? a) Very Comfortable b) Comfortable c) Uncomfortable

16) Which is your preferred way of using computers:working by yourself or working with a friend?

a) by myself b) working with a friend

17) Computers & Availability of Help	Yes	No
Have you used/are you using ICT in your work/with your classes?		
Do you have any special training in ICT given to you by your institution?		
Are you registered to any ICT courses?		
Is there a computer lab at your university?		
Is there a PC in every classroom?		
Are there any assistants to team teach with you?		

18) How many times a week do you need a computer for the activities below at your University?	Never	1 or 2 Times a month	1 or 2 Times a week	Every day
Chat on line				
Use e-mail				
Browse the Internet for your work at the university				
Download, upload or browse material from the university's website				
Post your work on the university's website				
Play simulations at the university				
Doing your homework using university computer				
Doing group work and communicating with other students Using university computers				

19) Academic work and the perception of the use of ICT

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
ICT shows me the way I am					
ICT creates a nice atmosphere in the classroom					
ICT facilitates my relationships with the group socially					
ICT helps explaining my problems to the teachers					
ICT assists me in asking others questions					
ICT aids me in expressing my emotions freely					
ICT allows public display of what I do for the subjects					
ICT makes the teacher pay more attention to us					
ICT guides the teacher in the working methodology					
ICT guides me with the plan of my work					
ICT assists me in evaluating my progress in the subject better					
ICT facilitates the presentation of content					
I prefer it better when teachers use ICT in the subjects					
ICT enhances the speed of work					
ICT helps to integrate knowledge from various sources					
ICT helps me to obtain subject related knowledge					
I require the need to access ICT when I need more about a topic					
With ICT I do my academic homework faster					
With ICT I do my academic homework better					
With ICT I develop skills related to the subject					
With ICT I can exchange ideas with my colleagues					
With ICT I can apply the acquired knowledge					
ICT help me to pass the course					
With ICT I can do my self-assessment					
ICT enables me to follow the course					
With ICT I can diagnose my mistakes in learning					
With ICT I can communicate with my teachers better					
With ICT I receive assistance from the teacher					
ICT lets me exchange ideas with my teacher					
With ICT I resolve my doubts					

20) Capability of Providing ICT teaching and learning by School

	A lot	some	a little	not at all
Not enough computers				
Not enough Internet- connected computers				
Not enough Internet bandwidth or speed				
Not enough interactive whiteboards				
Not enough laptops/notebooks				
Outdated School computers and/or Broken ones				
Teachers' inadequecy in necessary ICT skills				
Not enough technical support for teachers				
Inadequacy of content/material for teaching				
Difficult in integrating ICT use into the curriculum				
Having no pedagogical models on how to use ICT for learning				
University schedule (fixed lessons time, etc.)				
University space organisation (classroom size and furniture, etc.				
Pressure of exam and test based curriculum				
Having parents not in favour of ICT usage at the university				
Presence of teachers not in favour of ICT usage at the university				
The uncertainity of how benefitial ICT is in teaching				
Not having usage of ICT in teaching and learning as an objective				