Evaluation of Students' Attitude Towards ICT for Learning Purpose: Case Study of EMU IT Students

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ABSTRACT

ICT use and usefulness is largely adopted now as a trend globally and in institutions, especially for administrative, managerial and learning purposes. The main aim of this research work is to evaluate the attitude of EMU IT students towards ICT for learning purposes. This research work also focuses on deriving the significant differences and finding out the level of positivity or negativity of students' attitudes towards the ICT tools for learning purposes. The significant differences of this investigation were based on the students' age, class level and gender to determine the differences in attitudinal display of students regarding ICT adoption. Data for this research was gathered from 300 participants from IT department of EMU, through the use of questionnaire and interview questions. Responses of the respondents were analyzed adopting the SPSS instrument in other to derive the t-test, frequency, percentage, and ANOVA values.

The findings of this research showed that majority of EMU IT students possessed generally high attitudinal acceptability level towards ICT for learning purposes. Results also showed that students are highly and positively motivated and also have high receptive attitude towards the usage of ICT and its importance to their entire and general academic purposes. The study further show that the significant difference based on age, gender and class of students. This obtained results showed that no major significant difference between male and female display of attitudes towards ICT for learning purpose, because it was clearly found that male and female EMU IT students had different views on few cases relating to ICT importance to learning, but majority of the total responses obtained from both male and female

EMU IT students proved that there is no significance difference on attitude towards ICT in learning.

Keywords: Instructional Technology, Information Communication Technology, Attitude.

ÖZ

BİT'in kullanımı ve kullanışlığı artık en başta ögrenciler için olmak üzere idari yönetim ve öğrenme amaçlı global bir trend olarak kurumlar tarafından benimsenmiştir. Bu araştırma çalışmalarının temel amacı öğrenme amaçlı BİT doğru DAÜ BT öğrencilerinin tutumlarını değerlendirmektir. Bu araştırma çalışmalarında da önemli farklılıklar kaynaklandı ve aynı zamanda pozitif ve öğrenim amaçlı BİT araçları öğrencilerin tutumlarında olumsuzluk seviyesini bulmaya odaklandı. Bu araştırmanın önemli farklılıklar BİT kabulü ile ilgili öğrencilerin tutum ekranda farklılıkları belirlemek için öğrencilerin yaş, sınıf düzeyine ve cinsiyete dayalı bulundu. Bu araştırma için Veriler anket ve mülakat soruları kullanımı yoluyla, DAÜ IT departmanı 300 katılımcılardan toplanmıştır. Katılımcıların yanıtları t-testi, frekans, yüzde ve ANOVA değerleri elde etmek için diğer SPSS enstrüman benimseyerek analiz edildi.

Bu araştırmanın bulguları DAÜ BT öğrencilerin büyük çoğunluğu öğrenme amaçlı genelde yüksek tutum kabul edilebilirlik düzeyinin olduğunu göstermiştir. Sonuç öğrencilerin son derece olumlu ve motive olan ve aynı zamanda BİT kullanımı ve onların bütün ve genel akademik amaçlar için önemine yönelik yüksek anlayışlı tutum olduğunu gösterdi. Kadınların ve erkeklerin BIT'i oörenme amaçlarına yönelik tutumlarının sergilenmesinde önemli bir farkın olmadığını bu çalışma gösterdi. Çünkü açıkca bulunmuştur ki, DAU'nün BİT öğrencilerinden olan erkekler ve kadınlar arasında BIT'in öğrenme önemi ile alakalı bir takım farklı bakış açıları var,fakat toplam yanıtların sonuçlarının çoğu onu gösterdi ki,her ikisinin, DAU

BIT'in hem erkeleri hem de kadınları BİT'in öğrenimine yönelik tutumlarında önemli bir fark ispatlanmamıştır.

Anahtar Kelimeler: Öğretim Teknolojileri, Bilgi İletişim Teknolojileri, Tutum.

I dedicate this research work to my son who has supported me all through my education.

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Chapter 1

INTRODUCTION

The pace at which Information Communication Technology (ICT) moves progressively in this contemporary age has brought significant changes to the entire way at which students performs in their academics and also largely affected the general demands of the societies. This has in the long run affected the way and manner the communities produce, distribute, process and communicate knowledge from one source to another. This knowledge is processed basically for intending and willing learners, but the larger percentages of the target group are the students in the institutions of learning.

Therefore, the knowledge of student's intuition and perception of ICT for carrying out their academic tasks is a great issue to deal with in any university's strategic planning process (Jeff et al., 2004). These perceptions and intuitions affect behaviors of learners and this can directly be observed and measured as an aspect of their general lives as a human being, (Parkay & Hass, 2000); a person chooses to accept a response instead of another based on the previous perceptional drive and condition that exits during the time of the action. Behavior theory is usually investigated on objective and quantifiable behavioral events (Watson, 1986). It is made known that such evaluations are made on objective and awareness elements of behavior; researchers focuses on finding literal explanation so as to depict the occurrence of behaviors as it is related to the environmental happenings for further organization of

the surroundings and to motivate individual's ability to suit their immediate surroundings (Lefrancois, 1972).

Constructivist learning philosophies is the students' own real perception and control in learning, and also an individual knowledge construction; student do not ordinarily consume experience and knowledge, but actually in a real case constructs knowledge on the foundation of their former experiences (Piaget, 1972). ICT, precisely communication networks and computers can be adopted as an instrument for enhancing cognitive skills. These instruments have been learned and developed to enhance logical reasoning and higher order learning; the instrument further allows students to show and express their knowledge. They build information bases, specialist systems and technology presentations are signifying individually important and significant experience, incorporating them in higher-order, mental reasoning and learning (Salomon & Globerson, 1987). Whenever students adopt ICT tools, a scholarly relationship connecting the student and such tools are formed where such ICT tools broadens the student's reasoning. Cognitive ICT tools are built to ensure that students reason strongly on the course objective that is studied and also creating ideas that are possible as a result of such ICT tools (David, 2006). In the meantime, it is this same ICT tools that showcases the current and ingenious usage of constructivist teaching and learning approaches. Desai and Hart (2008) stated that the large quantity of knowledge, ICT provides daily has permitted students a novel means to discover educational hidden benefits when compared to regular teaching instruments.

ICT is usually seen to be a medium and an expediting factor in ensuring change in educational setting (Desai and Hart 2008). ICT organizes a student by helping them

to gain thoughtful understanding and to familiarize themselves with several educational resource, approaches to evaluating and providing solutions to problems through research works, philosophies, creativities and tests. ICT focuses on a progressive path to support teaching and learning by using such ICT tools and inculcating the importance of the tools on students and education as a whole. O'shea and Self (1983) stated that the ICT specialist would view ICT like any device for distribution and connection; only when ICT specialist can be attentive on examining closely regarding education, that means ICT tools impactful irrespective of its usage as a means of implementation, in other to create an ICT based learning environment brings us with a newer ways on the nature of teaching and learning objectives. In addition, the basic adoption of ICT tools in education is usually to teach ICT Assisted Instruction (ICTAI) encompassing practical and exercise programs, ICT-based learning and more current, intelligent tutoring systems. This ICT software is adopted in colleges to tutor students, based on what the instructors usually do.

Seely and Dugid (2000) argued that, these ICT tools offers novel approaches of creating, disseminating, and consuming educational resource. Just like many universities, newer ICT tools have caused universities to have a second thought, not just on some singular features, but on their entire vision and their drive towards their whole educational plan. ICT is progressively becoming more significant in our daily learning process and the educational system as a whole. At this, there tends to be an increasing request on institutions and colleges to adopt ICT tools for teaching the required skills and knowledge to the students who should possess in order to survive this educational current era.

ICT and ICT courses have been perceived to be very hard, hypothetical and tightly prepared (Newmarch et al., 2000). Moreover, they are based on programming and were extremely competitive (Sanders, 2005). Students perceive ICT no to be gratifying or satisfying, so therefore, they choose not to follow the ICT path (Wilson & Avison, 2007). Operating in the ICT field has been explained not to be stimulating; this has culminated to strengthening the perception that ICT is uninteresting (Von & Nielsen, 2001). Though, some other students believed ICT skills to be relevant (Multimedia, 2007).

Schumacher and Morahan-Martin (2001) debated that female students possess lower knowledge when it comes to ICT tools handlings and that they are more vulnerable to having negative attitudes towards ICT tools. Also Kraut et al. (1998) discovered that ICT adoption was more common amongst aged people as compared to individuals that are of younger age. Nonetheless, Ramayah and Jantan (2003), also found that age was has no impact on ICT adoption where younger students were more likely to adopt these tools. Cuban (2001) discovered that students in America colleges always adopts ICT tools in carrying out academic tasks like word processing, surfing the net, etc.

On establishing a college or an institution of higher learning, students are the primary factor, when harnessing and organizing the various ICT tools that would be used in such institutions. It is obvious that contemporary students already possess the basic skills needed to operate in this era of technological boom in education. As a result of this, if these students awareness, perceptions, thoughts, skills and motivating factors are not evaluated and determined at the beginning stage before the establishing of such college or institutions, employing instructors, developing courses curriculum,

instructional resources and the entire evaluation of the teaching and learning process; this will pose a huge problem to the entire educational system.

This is an issue that this dissertation will carefully deliberate on in which the findings will be more useful to planners of education, management and administrators or curriculum, guidance and counselors, government parastatals etc. Because, if the attitudes of students are studied and evaluated, then it becomes an easy identification on the basic ICT tools need for carrying out learning, and also the placement of students according gender, age and class level. Even if ICT usage have progressed, but many schools do not have a clear and wide educational visions or techniques on ICT usage (Cross & Adam, 2007).

This thesis work therefore, focuses on EMU Information Technology (IT) students' attitudes on ICT uses towards their learning process. This thesis also tries to sort out some learning process that ICT tools supports in their daily learning endeavor, and also it further reveals the attitudes of students towards ICT adopting in relation to grade, gender and age.

Since ICT tools have been on the increase, regarding to its usage, it is therefore more important to establish a qualitative and quantitative analysis on its importance to learning process. The learning process that support ICT tools will be analyzed, and student's attitudes on the use of ICT tools for tasks purposes will further based on age, gender and grade.

Few studies have been carried out on this topic for the course investigation in Famagusta, Cyprus, hence the reason for this investigation.

1.1 Aim of Study

This research aims on investigating EMU IT students' attitudes towards ICT in their learning process according to their age and grade.

1.2 Research Questions

The main research questions of the study are as follows:

1. What are the attitudes of EMU IT students towards ICT in learning process?
2. Is there any relation between class levels, gender and age of EMU IT students on their attitudes towards ICT in learning process?

1.3 Significance of the Study

The thesis is significant, because it will aid in the achievement of purpose related to improvement of service to students regarding to the guide to proper ICT tool utilization in the course of learning processes, and in gathering knowledge and data regarding the practicability of utilization of these ICT tools by students in EMU in their diverse learning processes. It can be noted via previous researches that ICT tools are not constantly utilized efficiently (Lawrenz, Gravely & Ooms, 2006).

1.4 Limitation of the Study

This research work suffered limitations of time available for extensive research, as the semester available was too short.

Chapter 2

LITERATURE REVIEW

This section of the research work aims to analyze researches that are already published, related to the title of this work, showing their statistical information and summary review. This section concentrates in building basic background knowledge of this entire research.

In recent years, the globe has recorded an extraordinary increase in communication technology, networking and interactive technology. Enhancement of novel interactive broadband services and the joining of computers and telecommunications have produced several opportunities to adopt different kinds of novel technological tools for learning purposes. The mixture of interactions and computers gives boundless exceptional possibilities to the academic settings in the nature to join, develop and communicate with one another across a large ecological distance in a reasonable way to obtain the desired learning purpose. The increase of computer systems and their interactions, their simple adoption, the strength and variety of data transfers and movement permits instructors and learners to have entrance into a universe far beyond the conventional classroom (Majumdar, 1997). This has the possibility to change the pattern and way of learning system and visualize a novel culture of learning. Communication, comfortability and adjustments have been the trend in the technology enhanced settings. Technology widens the possibilities for education due to the opportunities it affords learners to access, expand, change and

distributes knowledge and data in several modes of interaction pattern and styles. It affords the learner to distribute educational resources and materials and spaces, support student centered and interactive learning philosophy and support logical analysis, imaginative thinking and solution offering prowess (Majumdar, 1997).

Not just updating oneself with technological skills, but also adopting technology to support learning, that is the pertinent usefulness for instructors in carrying out their part as inventors of educational settings. In as much as literature gives some proof of the importance of adopting technological tools in practical situations, much is not understood regarding the learning pattern and educational framework should be adopted for pedagogy and training (Majumdar, 1997). The way we get highly assisted by ICT, learning cannot be same as it used to be before. Learners ought to adopt the quality and great opportunities provided by the novel ICT tools in education to achieve educational contents and objectives of a subject. In other to appreciate the fusion of technologies in learning process, it is important to know the actual paradigm movement in pedagogy in currents years.

Therefore, it is hard and even not possible to think of future academic settings which are not enhanced in a way or another with information and communication technologies. Yves, Dieter and Marcelino (2006) quoted, that in observing the recent spread and adoption of ICT in contemporary society, most especially the young, the digital Z generation - so therefore it must be noted that ICT can alter the whole pattern of today's learning and that of tomorrow. There is a large increase in thoughts that technology has a pertinent part to play in the transforming and modernizing pedagogical setting and structures of learning (Yves et al., 2006). Minor scientific proofs therefore exist of the strong impact of ICT to learning aspect, regardless of the

effect of the past eras. Therefore, it is important to provide proofs together on the effect of ICT on learning and general educational system. This is the major objective of this section in this research.

2.1 Growing Shapes of Tomorrow's ICT Enabled Learning

An increasing publicity in the globe about observing the next phase of learning is pertinent and vital, so as to properly hold the possibilities that will grow as the world moves to a growingly technological, connected and information based society. Punie and Cabrera (2006) states that a novel sight of ICT and learning is required, which puts into consideration the movement and trends that are changing the pattern and the style of which people carry out their job, assimilate, have fun and make their world a better place. Most importantly, this thought would be achieved via an active technique that assumes and anticipate learning desires of the future and their requirements, instead of technique that ordinarily react to novel needs as they arise.

Burgelman and Punie (2006) presented several findings in pedagogical fields and structures that alarms for drastic transformation in the pattern we learn at the moment. It is not any debate that the part played by technology as an enhancer of these transformations is more effective today than before. Technology can assist to shape and create an arrangement for the instructor's resources to learners, also in the subsequent advancement of a particular academic process, in validating, finding and prioritizing the resources. ICT can suggest and envisage composition of substantial and engineering representation and network in actual timeframe with them together in knowing history/future emergence. ICT also helps the handicapped citizens. ICT is priceless to the mixed language inhabitants, with automatic interpretation for learners.

A study observed the adoption of computer-replication pattern to enhance learning experience of under achieving learners in schools. The learners indulged in an a final phase of electrical studies in the course of their total and skill education in comprehensive schools. Due to the adoption of computer replication of electronic systems, the learners quickly produced far reaching personal working styles than the style expected by the instructors. The learner's reliance on the instructors dropped greatly. More findings based on the study was based that the outcome changed the instructors' self thought from a technical-vocational thought to a concern on the improvement of learners' reasoning skills and confidence (Davies, 2005).

ICT tools often are observed as enhancer for alteration, adjustment in instructional styles, amendment in absorption procedure and in recovery data (Watson, 1986). Rubina, Shakeel and Aqeel (2011) observe ICT as gadgets that offers way in to information through interaction tools; and also sees the capacity of being pertinent to conscription and indulging in the modern information world. Instructional technical gadgets are used in finding, increasing, analyzing and producing of data, and to model circumstances and problems and at last resolve likely challenges. Instruction and learning setting is mainly the significant part for ICT appliance. Technology instrument can help in producing another prospect for academic settings (Casal, 2007). Rubina et al. (2011) additional states that the focus of instructional technology gadget is largely to get learners accustomed with the use computer and connected principled and shared challenges. Technology has assisted patterns of learning through several intelligence been exposed in education via games model; this enables learning through all human senses (Gateway, 2010). Implementation of different technology tools is inevitable for student in learning process. By using new ICT tools, learners gather their anticipated information in a timely range.

2.2 Related Literature

This part discuses academic importance of using technology in universities that have be deliberated in previous research studies, and also the evaluation of learner's attitudes towards the use of ICT for learning purposes.

Al Mahmud (2011) carried out a research on learners attitude towards ICT, the study was done on special universities of Bangladesh. The researcher focused at finding the attitude of learners in the special university of Bangladesh to ICT. The sample for the study were 1022 respondents in post and graduate level during the evaluation of students perception and attitude based on gender, age, internet connection, years of experience and so on. The total population for the study consists of 65.9% boys and 34.1% girls. Nearly more than 90% of the learners possessed computers in their homes and also almost 81% have internet connections. The research found that close to 50% of the learners have positive attitudes regarding ICT, moreover, the study has no significant difference between boys and girls learners. Even for post graduate and graduate students no difference was noticed regarding attitudes.

Institutions all over the world supported numerous ICT infrastructures more than decades of years ago, and students use computers often and for a much bigger compilation of appliance gadgets (Volman, 2005). Frequent study unveils that students using ICT often show greater learning growth than learners that don't use it. Kulik (1994) found that through many studies in the America showed some results: students that use computers in their mathematics, sciences and social sciences were scored real high on tests during these subjects. Students that use computer simulation applications in class got higher scores also. The findings also displayed that

kindergarten school student that utilized subject software in studying and scored real high. Even some students that used computer to write their individual stories are scored real high on evaluation reading skill. Also, students that used Ms word applications or rather used computer to write were scored higher on writing skill evaluation

Tabar (2014) in his research titled the factors affecting learners' attitude towards ICT, evaluated learners attitude in relation to technology and the relation to learners gender, age and having PC at home and in school. The study was done Alameh Tabatabaei University in Tehran, it carried out study on 350 learners 62.5% were boys and 37.5% were girls. The findings of this showed that learners use computer for several purposes, and more than average of them use the computer for transactions, game playing and communicating with colleagues on a weekly and daily basis, 35% adopt computer for getting information, 55% for presentation, and the remaining hardly adopt the computer for programming, 100% adopts computer for listening to music. The study shows that the learners use computer for different goals as well as for academic and entertainment reasons. The study also reveals that learners attitudes shows positive attitudes regarding using ICT. The study further proves that no significant differences exist between students' attitudes in using computers, having computers in the house and students age.

Ahmad (2012) carried out a research, on learners' attitudes in colleges of education in Jordanian institutions regarding the use of mobile phone in institution of learning. To find out learners attitude and also to evaluate if there is a significant differences in learners' attitude regarding age, gender, level of study etc., the used 363 respondents from different college of education in Jordan. The sample consisted 78.2% girls and

21.8% boys, the study showed that learners in colleges of education have positive perception towards adopting mobile phones, that is to say that, there is no significant differences in the learners attitude regarding the adoption of phones in institutions in Jordan between boys and girls learners. The study also showed that undergraduate students showed less positive attitudes that the post graduate learners.

Alkan and Erdem (2010) carried out a research on learners attitude towards ICT, the study focused on students' attitudes towards technologies regarding their status in acquiring learning application lessons. The study was conducted in Hacattepe university faculty of education. The samples for the study received tutor on different courses from chemistry to biology to physics and mathematics. In the study there were two status of acquiring training, preliminary grade didn't receive training and the fifth grade received training. The study finally proved that learners had positive attitudes generally regarding technologies and further proved that the fifth grade students were more interacted positively that the preliminary students; the learners that received training showed their strong positive attitudes and displayed difference in the perception regarding the state of adopting training lesson application. More so, no significant differences exist in the attitude between boys and girls learner and no significant difference between departments also.

Sarfoet (2011) carried out a research on learners attitude towards ICT, the study was done on rural and urban learners. The researcher focused at finding the attitude of learners in rural and urban setting to ICT. The sample for the study were 319 respondents in secondary level during the evaluation of students perception and attitude based on gender, age so on. The total population for the study consists of 159 boys and 160 girls. The population was shared to 184 from urban and 140 from rural.

The research concentrated on senior high schools in Ghana. This showed that there is no significant difference between male and female from the geographical settings in their perception regarding ICT for advancement. More so, learners from urban possess a positive perception than the learner in rural setting. The study also shows that there is similarity in their usage of ICT for learning purpose. In as much as no significant exist between rural and urban setting regarding ICT use, but the attitude of urban learners differ from rural learners.

Duran (2013) in his research titled the factors affecting learners' attitude towards ICT, evaluated learners attitude in relation to technology and the relation to learners' gender. The study was done at Usak University, it carried out study on 254 learners 110 were boys and 144 were girls. The findings of this showed that learners use computer for several purposes, and more than average of them use the computer for transactions, game playing and communicating with colleagues on a weekly and daily basis, 73.3% adopt computer for getting information, 77.9% for social networking, 62% adopts computer for educational purpose. The study shows that the learners use computer for different goals as well as for academic and entertainment reasons. The study also reveals that learners' attitudes show positive attitudes regarding using ICT. The study further proves that no significant differences exist between students' attitudes in using computers, having computers in the house and students age.

Lukow (2005) in this research titled the factors affecting learners' attitude towards use of ICT in classroom, evaluated learners attitude in relation to technology use in school. It carried out study on 244 learners 32% were boys and 68% were girls. The findings of this showed that learners use computer for several purposes, and more

than average of them use the computer for transactions, game playing and communicating with colleagues. 70% didn't use programming language and hardly produced a web page and their skills grew. Average of them for discussions and the remaining hardly adopt the computer for programming, majority adopts computer for listening to music. The study shows that the learners use computer for different goals as well as for academic and entertainment reasons. The study also reveals that learners' attitude shows positive attitudes regarding using ICT. The study further proves that no significant differences exist between students' attitudes in using computers, having computers in the house and students age.

Becta (2004) and Van Daal and Reitsma (2000) stated that "the students with small intensity of motivation and feeling of disbelief regarding their educational capability can show an extra hopeful performance through instructions using computers than using traditional instruction". Harris and Kington (2002) revealed variety of hopeful effects of technologies gadgets on student, collectively with enhanced ability to work independently, enhanced self-assurance in communicating with age group, the university and family unit, enhanced look at class and enhanced collective activities and joint skills. Students who use ICT in institution feel more satisfying in class, and they appeared to be more stimulated to study and acquire elevated individual-esteem, Becta quoted that "PCs stimulated students to indulge longer and stronger with an augmented control in their acts."

It is clear through these theories that have been analyzed through many investigational studies, that the encouraging persuasion of technical instrument will have a significant impact on students' awareness to education, which consistently shows a practical effect on learners' achievement. It should be recognized, however,

that these perception only pertain if the ICT actions are inspiring and satisfying. Proofs are accessible via numerous studies that learners can be fed up and indifferent with a number of technological engagements, just like every other instructional pattern.

Chapter 3

METHODOLOGY

This section of the research study includes detailed explanation of analysis of the research design, data collection, techniques and data analysis, population and sample data used in the study.

3.1 Research Design

This dissertation incorporated a mixed method approach in order to adopt various approaches to analyze and explore the problem in this research study. Mixed methods deliberately join several methods together in order to find out the strengths and quality of each other; by adopting numerous methods (Johnson et al., 2007).

This dissertation also adopted a descriptive investigation that is explorative in nature. Creswell (2003) stated that an explorative study is always supportive when an in-depth analysis has not been done concerning a particular topic or study group under investigation. Gay & Airasian (2000) also quoted that descriptive research usually called survey research is mostly connected with events, perceptions, awareness, demographics and preferences. The outcomes of the qualitative analysis would be validated by elaborate interviews. Qualitative research design produces information concerning group of persons in relational gatherings; it majors on gathering proper knowledge through direct encounter, it also aims to know how the participants gets value from their surroundings and also how their value influences their personality as an individual (Creswell, 2003). The qualitative part was not done just to get holistic

information but also to validate the general outcomes of the survey. Gelsne (1998) opined that the collection of different data approach ensures validity of data. Interview turns out to be major tool to investigate the unmet challenges the questionnaire brought and also to possess a proper knowledge of student's perception of ICT tool on academic tasks.

Quantitative research is a kind of discovery adopted mostly for deductive research, especially if the aim is to investigate hypothesis or theories, collect descriptive data or evaluate connections amongst variables (Johnson et al., 2007). This research work adopts a quantitative research by adopting the gathering of information using a questionnaire, and statistically analyzing data gotten on the instruments to investigate hypothesis or and research question.

Creswell (2003) defined a case study as an experimental inquiry that evaluates a subject within a real-life context. The case for this study is on the IT students of Eastern Mediterranean University.

Group of persons that posses one or more feature alike that are of a researchers' interest is known as a research group (Best & Khan, 1993). Gay and Airasian (2000) stated that a research group the researcher would really like to generalize to is called a target research group. The target population for this survey was IT students of EMU University, Famagusta Cyprus; for Fall semester 2015-2016 session. The total population of the IT students was 300.

Wiersma (2000) defined a sample to be a subset of a population; sampling will be done by adopting a convenience sampling approach which will further be issued questionnaire in order to extract data from the participants. Likewise, purposive sampling approach will further be done for participants of interview. Patton (1990) "A concentrated sample is made up of a data loaded case that shows the fact of significance deeply (but not enormously)". Criteria for choosing the respondents will be judged on their "extreme" reply to the fundamental issue relevant to the research.

The participants for this research work are made up of 300 EMU IT students, which would be selected between first year through 4th year of IT department and also including postgraduate IT students of EMU. In addition, 20 students would be chosen for interview purpose; they will give their replies based on the seven (7) interview questions arranged to validate the loops in the questionnaire.

The total amount of questionnaire that will be issued out are 300 pieces, and each questionnaire carries similar set of 30 questions each that covers the whole areas of the research questions.

Table 1. Demographics

		Frequency	Percent
Gender	Male	251	83.7
	Female	49	16.3
	Total	300	100.0
Age	17-24	130	43.3
	25-34	74	24.7
	35 and older	96	32.0
	Total	300	100
Class Level	1	112	37.3
	2	92	30.7
	3	59	19.7
	4	32	10.7
	Extra year/masters level	5	1.6
	Total	300	100

Country (A-Z List)	Nigeria	157	52.3
	Iran	22	7.3
	Tajikistan	2	0.7
	Libya	31	10.3
	Cyprus	10	3.3
	Zimbabwe	6	2.0
	Turkey	23	7.7
	Syria	2	0.7
	Others	47	15.7
	Total	300	100

From Table 1, in all the 300 students 251 were males that appears to be approximately 83.7% of the selected sample and 49 of the rest students are female students which are 16.3% of the selected sample. Based on their years of studies in class levels, 112 students which is 37.3% of the sample group are in level 1, 92 students which is 30.7% of sample fall under level 2, 59 students which is 19.7% of the students fall under class level 3, 32 students which is 10.7% of the sample group fall under class level 4, and 5 students which is 1.6% of the selected sample group are under those students that have extra year of studies or are in their masters level.

The study used age between ranges 17-24 were 130 students fell under such range and are approximately 43.3% of the selected age sample, 25-34 age range had 74 students within such range and are approximately 24.7% of the age sample, 35 and older age range had 96 students in such range and are approximately 32.0% of the selected age sample. Students from several countries also provided responses such as from Nigeria, Iran. Tajikistan, Libya, Cyprus, Zimbabwe, Turkey, Syria and others, all with a total representation of 157, 22, 2, 31, 10, 6, 23, 2, and 47, respectively.

3.2 Data Collection Tool and Techniques

Qualitative and quantitative techniques will be used in the course of this research so as enable the gathering of information on the population of IT EMU students via a questionnaire.

3.2.1 Questionnaire

Questionnaire for this dissertation was invented by Iolanda, Anna, Begona in their work "students' attitude towards ICT learning uses: A comparison between digital learners in blended and virtual universities (Iolanda, Anna & Begona, 2009). 300questionnaires will be shared to 300 students when collecting data for the study.

Questionnaire was built into two parts in which one part is made up of research variables and other sections containing 30 questions which match the whole research question of this study. This is in a bid to instill soundness and consistency of the study and to discuss on the vital subject matters intended for examination all through the research. The questionnaire uses a 5 level evaluation scale for the second section of the questionnaire namely strongly disagreed, disagreed, neutral, agreed strongly disagreed, which is a Likert Scale to calculate the level of replies from the participants.

Gathered statistics will be prearranged and additionally assembled in an SPSS file which will be examined later in order to get explanatory information or evaluation. Creswell (2009) affirmed that explanatory study scheme is used when assembling information into a relevant report for absorption and hassle free digestion.

3.3.2 Interview Question

Interview question is one of the tools that used to elicit responses needed for the investigation in this study. Such responses enables qualitative and a descriptive analysis of outcomes in the study. Interview questions for this study was freshly built from researches and surveys related to this study, where forth, (7) seven interview questions were built for the purpose of validating the other responses gotten from the questionnaire of this study.

3.4 Data Analysis

Quantitative analysis will be used to show the whole investigation of the entire information, by finding the cluster mean, average mean, significant point, 0.05 level value spot, T-test will be used to examine the information involving two demographics only for example, gender and ANOVA will be employed in examining demographics involving two or more such as ranges of age and grade level of students via SPSS collection.

3.5 Reliability and Validity

It is true that in the absence of a repeated statistical correlational outcome, the investigation and experimental study have not accomplished all the prerequisites of testability. The reliability of this study was therefore based on the results gotten from the findings of this study as it was similar to that of other research conducted under the same condition. Udoka (2015) discovered that attitudes of students towards the adoption of ICT tools was positive and its outcomes showed no significant differences based on class, age, gender of EMU IT students.

The validity of this study also was proofed on the significant results achieved and not an absolute truth. And also based on the use of questionnaire as instrument and

further reusing of interview questions to validate responses of the sample groups. Further validity was made by ensuring that respondent to interview questions was made on purposive selections, as to obtain purposeful responses that would be valid for the investigation onwards.

Chapter 4

FINDINGS AND DISCUSSIONS

This research section aims at interpreting data collected for investigation of EMU IT student's attitudes towards ICT usage for learning process and to find out also the co-relational existence between and amongst their attitudes towards ICT usage regarding their gender, age and class level.

4.1 Attitudes of EMU IT students towards ICT use for learning processes

This part analyzes students' attitudes towards ICT use, via displaying their frequency and percentage level of attitudes regarding personal responses.

4.1.1 General attitude level of EMU IT students on ICT use during learning processes

Table 2 shows the level of attitudes towards the adoption of ICT by students displayed on personal responses based on mean, frequency and percentages.

Table 2. Level of EMU IT students' attitude on the use of ICT tool

		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean values
		n	%	n	%	n	%	n	%	n	%	
Q1	ICT help me to gain knowledge related to the subject	32	10.7	9	3.0	32	10.7	123	41.0	104	34.7	3.86
Q2	ICT help me to develop skills related to the subject	20	6.7	17	5.7	39	13.0	123	41.0	101	33.7	3.89
Q3	ICT help me to do my academic homework faster	21	7/0	15	5.0	66	22.0	99	33.0	98	32.7	3.96
Q4	ICT help me to do my academic	17	5.7	16	5.3	65	21.7	107	35.7	95	31.7	3.82

	homework better											
Q5	I use ICT when I want to know more about a topic	16	5.3	20	6.7	60	20.0	116	38.7	88	29.3	3.80
Q6	ICT allows me to exchange ideas with my teachers	12	4.0	24	8.0	81	27.0	112	37.3	71	23.7	3.69
Q7	ICT allows me to exchange ideas with my colleagues	17	5.7	25	8.3	70	23.3	107	35.7	81	27.0	3.70
Q8	ICT make it easier for me to pass the course	13	4.3	34	11.3	74	24.7	95	31.7	84	28.0	**3.68**
Q9	ICT help me to follow the course	16	5.3	22	7.3	61	20.3	114	38.0	87	29.0	3.78
Q10	ICT allow me to apply the acquired knowledge	18	6.0	24	8.0	60	20.0	124	41.3	74	24.7	3.71
Q11	ICT facilitate my self-assessment processes	13	4.3	21	7.0	90	30.0	103	34.3	73	24.3	**3.67**
Q12	I like teachers to use ICT in the subjects	20	6.7	18	6.0	62	20.7	127	42.3	73	24.3	3.72
Q13	ICT help the teacher to guide the working methodology	16	5.3	32	10.7	57	19.0	124	41.3	71	23.7	**3.67**
Q14	ICT allow me to plan my work	21	7.0	19	6.3	74	24.7	105	35.0	81	27.0	3.69
Q15	ICT allow me to better evaluate my progress in the subject	17	5.7	19	6.3	76	25.3	110	36.7	78	26.0	3.71
Q16	ICT enhance the pace of work	17	5.7	23	7.7	74	24.7	97	32.3	89	29.7	3.73
Q17	ICT facilitate the presentation of content	17	5.7	18	6.0	76	25.3	100	33.3	89	29.7	3.75
Q18	ICT facilitate the diagnosis of my learning mistakes	15	5.0	32	10.7	70	23.3	97	32.3	86	28.7	3.69
Q19	ICT help me to receive assistance from the teacher	12	4.0	28	9.3	73	24.3	111	37.0	75	25.0	3.80
Q20	ICT facilitate the integration of knowledge from different sources	13	4.3	22	7.3	69	23.0	112	37.3	84	28.0	3.77
Q21	ICT help me to resolve my doubts	17	5.7	27	9.0	79	26.3	96	32.0	81	27.0	**3.66**
Q22	ICT allow me to better communicate with my teacher	15	5.0	33	11.0	80	26.7	99	33.0	73	24.3	**3.61**
Q23	ICT allows me to express my emotions more freely	17	5.7	52	17.3	79	26.3	88	29.3	64	21.3	**3.43**
Q24	ICT enable the teacher to pay more attention to us	16	5.3	37	12.3	82	27.3	107	35.7	58	19.3	**3.51**
Q25	ICT help me to	12	4.0	37	12.3	77	25.7	97	32.3	77	25.7	**3.63**

	explain my problems to the teacher											
Q26	ICT help to generate a pleasant atmosphere in the classroom	12	4.0	38	12.7	79	26.3	120	40.0	51	17.0	**3.53**
Q27	ICT help me to ask others questions	13	4.3	29	9.7	71	23.7	110	36.7	77	25.7	3.70
Q28	ICT facilitate my social relationship with the group	15	5.0	24	8.0	69	23.0	110	36.7	82	27.3	3.73
Q29	ICT allow me to publicly show what I do for the subjects	14	4.7	29	9.7	75	25.0	104	34.7	78	26.0	**3.68**
Q30	ICT help to show me the way I am	25	8.3	36	12.0	71	23.7	81	27.0	87	29.0	**3.56**
%-100, n-300, Average mean=3.695.												

Table 2 above displays the general level of EMU IT student's attitudes towards ICT during learning processes. From the general observation of the table above it can be deduced that over 75% of the sample response are within the range of agree and strongly agreed. This appears to show high acceptability of attitudinal level of students towards ICT adoption for learning process and general usage. 10% of the respondents are totally clueless as to the impact of ICT tool towards their entire learning process and therefore, gave a neutral view on ICT impact towards their learning processes. 15% of the respondents in Table 2 above fall in the range of strongly disagreed and disagree on the positive attitude and impact of ICT towards their entire learning process, this is proven as a result of low percentage and n scores realized from the general evaluation of the students attitudes towards ICT in learning process.

Table 2 also showed an average mean value of 3.695. In all the displayed mean value above, the bolded values which are 24% of the whole mean are slightly below the average mean value; this statistically means that, ICT tools appears to be less helpful

to student respondents on the question items of such means e.g. Q8, Q11, Q13, Q21, Q22, Q23, Q24, Q25, Q26 Q29 and Q30 respectively. Cases such as ICT not being able to enable students discover themselves the way they are, ICT not properly helping the students to resolve their doubts, ICT not facilitating students self assessment process etc. The other 76% of the remaining mean score above the average mean proved to show that EMU IT students where highly and positively motivated and displayed great reception behavioral wise to ICT usage and its benefits towards their entire and general learning processes.

Respondent I, replied “more than few cases I can boldly commend ICT educational tools of being assistive to my general academic success; without which studies would have very boring and unsuccessful for me”.

Respondents III, also stated that “courses which are ICT use enabled tends to be interesting and easier compared to others that requires a lot more manual processes during course study”

Respondents V, “learning process is quite stressful and difficult when it has to include technology and programming tools and inputs for final grading and also I prefer direct communication with lecturers than virtual interactions which greatly makes instructions more difficult to understand for me.

Nicole (2011) quoted few professionals in his quarterly updates about educational ICT trends stating their views on ICT impacts on students. In his study, he further quoted a head at computing academy called BSC (British Computer Society), who stated that “ICT program courses were not purposefully structured and therefore left

learners rigid and bored". Also he quoted that the head of skill-set, who stated that learners should learn using productivity skills but not to the extreme; "although students need these set of skills but they should not waste their entire session on them".

The finding of this study run in relation with Becta (2004) who stated that although ICT remains useful and trending, other areas that are necessary for general educational development should be critically evaluated for wholesome accomplishment of general learning process.

4.2 Relationship between genders, age and class levels, of EMU IT student's attitudes towards ICT in learning process

This section clearly analyzes and shows relationship significance of various variables selected for this study, such as gender, age and class level and their statistical mean score for the specific findings.

4.2.1 Gender comparison of EMU IT students' attitudes towards ICT in learning process

Table 3 below displays the analyses of attitudes of EMU IT students towards ICT during learning process based on gender comparison.

Table 3. Gender comparison on attitudes towards ICT during learning process

		Gender	**Mean**	**Between groups (*P value*)**
Q1	ICT help me to gain knowledge related to the subject	Male Female	3.85 3.90	**.002**
Q2	ICT help me to develop skills related to the subject	Male Female	3.91 3.82	.142
Q3	ICT help me to do my academic homework faster	Male Female	3.78 3.90	**.002**
Q4	ICT help me to do my academic homework better	Male Female	3.79 3.98	**.003**
Q5	I use ICT when i want to know more about a	Male	3.78	**.007**

	topic	Female	3.88	
Q6	ICT allows me to exchange ideas with my teachers	Male Female	3.71 **3.59**	.644
Q7	ICT allows me to exchange ideas with my colleagues	Male Female	3.71 3.63	.321
Q8	ICT make it easier for me to pass the course	Male Female	**3.68** 3.67	.591
Q9	ICT help me to follow the course	Male Female	3.78 3.78	.253
Q10	ICT allow me to apply the acquired knowledge	Male Female	3.69 3.82	.172
Q11	ICT facilitate my self-assessment processes	Male Female	**3.64** 3.84	**.016**
Q12	I like teachers to use ICT in the subjects	Male Female	3.71 3.73	.439
Q13	ICT help the teacher to guide the working methodology	Male Female	**3.68** 3.65	.831
Q14	ICT allow me to plan my work	Male Female	3.71 **3.55**	.829
Q15	ICT allow me to better evaluate my progress in the subject	Male Female	3.74 **3.55**	.996
Q16	ICT enhance the pace of work	Male Female	3.75 3.63	.063
Q17	ICT facilitate the presentation of content	Male Female	3.78 **3.59**	.997
Q18	ICT facilitate the diagnosis of my learning mistakes	Male Female	3.71 **3.57**	.788
Q19	ICT help me to receive assistance from the teacher	Male Female	3.74 **3.47**	.442
Q20	ICT facilitate the integration of knowledge from different sources	Male Female	3.77 3.78	.782
Q21	ICT help me to resolve my doubts	Male Female	**3.65** 3.67	.402
Q22	ICT allow me to better communicate with my teacher	Male Female	**3.63** **3.49**	.929
Q23	ICT allows me to express my emotions more freely	Male Female	**3.47** **3.27**	.942
Q24	ICT enable the teacher to pay more attention to us	Male Female	**3.53** **3.45**	.880
Q25	ICT help me to explain my problems to the teacher	Male Female	**3.63** 3.65	.518
Q26	ICT help to generate a pleasant atmosphere in the classroom	Male Female	**3.55** **3.47**	.586
Q27	ICT help me to ask others questions	Male Female	3.73 **3.55**	.857
Q28	ICT facilitate my social relationship with the group	Male Female	3.75 3.65	.052
Q29	ICT allow me to publicly show what I do for the subjects	Male Female	3.69 3.63	.072
Q30	ICT help to show me the way I am	Male Female	**3.61** **3.33**	.995
*Male n= **251**, Female n=**49**. *P value<0.05 *Average Mean Male=**3.69**, Female=**3.625**				

Table 3 above, analyzes the attitudinal comparisons among genders of EMU IT students towards the ICT for learning process. Attitudes of students towards ICT were dependable factor on gender for comparison. From the 30 items in the questionnaires, Q1, Q3, Q4, Q5, Q11, which appears to be 16.6% of the total items all showed a value below the significant value of $P<0.05$; i.e. .002, .002, .003, .007, .016 respectively. These items covers areas like, using ICT to doing work faster or better, ICT enabling individual to gain knowledge about a topic or subject and ICT facilitating self assessment process; and thus proves that the female and male students of EMU IT students have some level of significant differences regarding their attitudes towards ICT tools for learning. This statistically shows that no relationship co-exists, between genders of EMU IT student's attitudes on some areas of learning needing ICT tools. The other 83.4% of the items in the instrument used for data collection showed that there are no significant differences between genders' attitudinal reactions towards ICT tools for learning process; as they all showed P values greater than 0.05 point, set as the significant value point for this study. This statically proves that, a strong relationship exists between genders of EMU IT students regarding greater acceptance and utilization of ICT tools for learning purposes. It clearly and simply means that both the boys and girls of EMU IT students holds the same idea and belief in greater percentage, that technology and communication tools are of favorable and pertinent use to their general learning processes.

The male produced an average mean outcome of 3.69 and the female counterpart with an average mean value of 3.625, the table 3 showed that 66.6% of male mean responses are fairly above the average mean outcome for the male participants of the study, and 60% of the mean responses from female EMU IT students are likewise

above the mean average of the outcomes of the correlation of gender attitude analysis towards ICT tools for learning. This statistically mean that both the male and the female counterparts positively accepts and greatly adopts ICT tools during learning process, but, also they slightly holds some indifference in some areas that relates to ICT usages. For example, for the male, some don't believe that ICT helps them to facilitate self assessment process, also don't believe that ICT helps to show them the way they are, nor do ICT help in resolving their doubts, or does ICT enable the teacher to pay more attention to them and also that ICT does not help them to better communicate their emotion to the teacher. For the female, they also hold some similar views with the likes of the male's opinions, but also has some other indifferences too regarding ICT tools for learning, such as, ICT does not facilitate the diagnosis of my learning mistakes, ICT does not allow me exchange idea with my teachers, ICT allows for the better presentation of contents etc.

Respondent VI, in an interview states that, "technology to everyone serves virtually the same purpose especially students, but I can personally say that most women lack interest when it comes to adopting most technology in the classroom, especially my type".

Respondent II, "less female colleagues hardly go for courses that include technicalities and practical like designing and programming. It is not our thing; the men are good at it"

In a similar study Udoka (2015), Student A responded in an interview stating that "she cannot actually state if there is differences between boys and girls usage of ICT

tools, unless that some boys usually engage in game playing and programming all kind of stuffs which we girls don't actually do".

Becta (2008) in a study conducted to evaluate how male and female differ in ICT adoption, both within and outside of school system arrived at some similar findings to this study: "found that the adoption of ICT tools in schools enhances the passion and interest of both male and female students, although there is a greater growth noticed for males than female students". Secondly, he found that, "his study found that there are slight significant differences in female use of ICT than the male, noticing that females use technology more for academic purposes, while male uses it for fun and leisure. Concluding that a greater percentage of this significance is due to males larger use of console/arcade games and computers". Also states that females usually are faced with cyber-bullying than male counterparts; and thus may reduce their ICT or technology usage often.

Jorge (2003) conducted a related study, found out that technology is less likely used among female students and that male have got more experience of various ICT tools and software.

4.2.2 Age comparison of EMU IT students' attitudes towards ICT in learning process

Table 4 below displays the analyses of attitudes of EMU IT students towards ICT during learning process based on age comparison.

Table 4. Age comparison on attitudes towards ICT during learning process

		Age	Mean	Between and Within Groups *(P value)*
Q1	ICT help me to gain knowledge related to the subject	17-24 25-34 35 and older	4.05 3.84 3.61	**.029**
Q2	ICT help me to develop skills related to the subject	17-24 25-34 35 and older	4.12 3.89 3.59	**.003**
Q3	ICT help me to do my academic homework faster	17-24 25-34 35 and older	3.98 3.89 **3.49**	**.005**
Q4	ICT help me to do my academic homework better	17-24 25-34 35 and older	3.99 3.86 3.56	**.014**
Q5	I use ICT when i want to know more about a topic	17-24 25-34 35 and older	3.96 3.76 3.61	.058
Q6	ICT allows me to exchange ideas with my teachers	17-24 25-34 35 and older	3.75 3.72 3.57	.422
Q7	ICT allows me to exchange ideas with my colleagues	17-24 25-34 35 and older	3.80 3.80 **3.49**	.084
Q8	ICT make it easier for me to pass the course	17-24 25-34 35 and older	3.78 3.74 **3.48**	.111
Q9	ICT help me to follow the course	17-24 25-34 35 and older	3.90 3.93 3.50	**.010**
Q10	ICT allow me to apply the acquired knowledge	17-24 25-34 35 and older	3.91 3.70 **3.44**	**.007**
Q11	ICT facilitate my self-assessment processes	17-24 25-34 35 and older	3.78 **3.58** 3.59	.278
Q12	I like teachers to use ICT in the subjects	17-24 25-34 35 and older	3.88 **3.66** 3.53	.051
Q13	ICT help the teacher to guide the working methodology	17-24 25-34 35 and older	3.87 **3.50** 3.54	**.027**
Q14	ICT allow me to plan my work	17-24 25-34 35 and older	3.89 **3.68** **3.42**	**.008**
Q15	ICT allow me to better evaluate my progress in the subject	17-24 25-34 35 and older	3.79 3.72 3.59	.403
Q16	ICT enhance the pace of work	17-24 25-34 35 and older	3.82 3.81 3.54	.154
Q17	ICT facilitate the presentation of content	17-24 25-34 35 and older	3.83 3.85 3.57	.156
Q18	ICT facilitate the diagnosis of my learning	17-24	**3.68**	.182

	mistakes	25-34 35 and older	3.88 3.55	
Q19	ICT help me to receive assistance from the teacher	17-24 25-34 35 and older	3.82 3.84 **3.43**	**.011**
Q20	ICT facilitate the integration of knowledge from different sources	17-24 25-34 35 and older	3.85 3.99 3.51	**.009**
Q21	ICT help me to resolve my doubts	17-24 25-34 35 and older	3.80 **3.69** **3.44**	.057
Q22	ICT allow me to better communicate with my teacher	17-24 25-34 35 and older	**3.60** 3.74 3.51	.404
Q23	ICT allows me to express my emotions more freely	17-24 25-34 35 and older	**3.40** **3.55** **3.39**	.591
Q24	ICT enable the teacher to pay more attention to us	17-24 25-34 35 and older	**3.56** **3.62** **3.36**	.256
Q25	ICT help me to explain my problems to the teacher	17-24 25-34 35 and older	3.72 3.81 **3.39**	**.025**
Q26	ICT help to generate a pleasant atmosphere in the classroom	17-24 25-34 35 and older	**3.55** **3.65** **3.42**	.341
Q27	ICT help me to ask others questions	17-24 25-34 35 and older	3.76 3.77 3.55	.287
Q28	ICT facilitate my social relationship with the group	17-24 25-34 35 and older	3.79 3.80 3.60	.378
Q29	ICT allow me to publicly show what I do for the subjects	17-24 25-34 35 and older	3.71 3.78 3.55	.364
Q30	ICT help to show me the way I am	17-24 25-34 35 and older	**3.47** **3.61** 3.66	.510
17-24 (n)=130**, 25-34 (n)=**74**, 34-older (n)=**96**. *Average Mean-17-24=**3.76**, 25-34=**3.745**, 35-older=**3.51** *P value<0.05*				

In table 4 above, the attitudinal level of various age groups of EMU IT students are evaluated and analyzed to determine their correlation and significant differences between age groups and within age group, and also determine their mean ranges between groups and its distance from the average mean. Similar 30 items were used to conduct this investigation for this section of the study investigation, it can clearly

be seen that in all the items used for the measurement 11 question items which is about 36.6% of the whole items proved to show that strong significant differences exist between age groups of EMU IT students regarding their attitude display towards ICT reception. Q1, Q2, Q3, Q4, Q9, Q10, 13, Q14, Q19, Q20 and Q25 all produced outcomes such as, 029, .003, .005, .014, .010, .007, .027, .008, .011, .009 and .025 respectively. These significant values appears to be below the p value point set for this study ($p<0.05$). This statistically shows that one-third(1/3) of EMU IT students from different age groups of the study holds different ideas and beliefs on the ICT importance for learning. Therefore, not all the age group levels have the same attitude towards ICT for learning purposes, further proving that no relationship of attitudes between age group of EMU IT students exist in few cases of ICT inclusion for learning purposes, such as ICT being able to help them gain knowledge in subjects and topic contents, ICT being able to help them explain their problem to the teachers, ICT being able to integrate knowledge from different sources, ICT being able to plan their work or follow courses or even apply acquired knowledge etc.

Other 19 question items which are about 63.4% of the items showed that students responses proved that no significant differences existed between them regarding their attitudes towards ICT for learning purpose based on their individual and group age levels. This statistically shows that greater and stronger relationship exist between students based on their different age levels in display of attitudes in larger areas and aspects of learning that includes the adoption and use of ICT tools and technologies. Hence, based on age levels comparison of EMU IT students, larger part of several age groups holds similar view on ICT impact to education and learning purpose in general.

According to each age level mean, students within the age group of 17-24 had 20% of the entire mean responses below the level average mean of such age range, this statistically mean that in all the items that concerns the importance of ICT to learning purpose the younger IT students of EMU slightly responded below the average mean of 3.76, proving that the remaining 80% of the students responses showed greater increase above the average mean level for younger students in IT department of EMU. Students within the age group of 25-34 had 30% of the entire mean responses below the level average mean of such age range, this statistically mean that in all the item that relates to the usefulness of ICT to learning, students within the middle age groups responded slightly below the average mean of 3.745, showing that the remaining 70% of the students mean responses are far greater than the average mean level of such age group in EMU IT department. And students within the age group of 35 and older had 36.6% of the entire mean responses below the level average mean of such age range, this statistically mean that in all the items that has to do with usefulness of ICT to learning the older age group also slightly responded below the average mean of 3.51, which proves that remaining 64.4% of the total mean responses showed greater increase above the average mean level of older EMU IT students.

From this it can be concluded that younger students of EMU IT students has less negative attitude towards ICT for learning compared to the older students, and also the older students quite hold slightly larger opinion regarding lack of interest towards ICT than their younger counterparts.

Respondent VII, stated that “I am 20 and I believe what I can use technology for can also be used by one far more older than me, it only takes interest and passion indulge ICT usage”.

Respondents IV, “older students like the postgraduate students should be more knowledgeable and love ICT more because I believe they are more exposed to higher academic works that involves huge technology involvement, so they should value it more than we younger students”.

In a similar study conducted by Udoka (2015), a student responded that technology is at every ones beck and call, either old or younger students. It depends on the device or program or machine or software you learn and master, not what you are age-wise”.

Weston and Brain (2010), in related investigation like this, found that young learners are actually more interested and motivated on course contents and objectives that includes ICT involvement.

4.2.3 Class level comparison of EMU IT students’ attitudes towards ICT in learning process

Table 5 below displays the analyses of attitudes of EMU IT students towards ICT during learning process based on class level comparison.

Table 5. Class level comparison on attitudes towards ICT during learning process

		Class Level	Mean	Between and Within Groups *(P value)*
Q1	ICT help me to gain knowledge related to the subject	1	4.04	**.034**
		2	3.83	
		3	3.75	
		4	3.75	
		Extra year/masters level	2.40	

Q2	ICT help me to develop skills related to the subject	1 2 3 4 Extra year/masters level	4.12 3.89 3.73 3.59 2.80	**.014**
Q3	ICT help me to do my academic homework faster	1 2 3 4 Extra year/masters level	4.05 3.76 3.61 3.56 2.60	**.008**
Q4	ICT help me to do my academic homework better	1 2 3 4 Extra year/masters level	4.13 3.79 3.47 3.66 2.80	**.001**
Q5	I use ICT when I want to know more about a topic	1 2 3 4 Extra year/masters level	4.00 3.89 3.53 3.56 2.40	**.001**
Q6	ICT allows me to exchange ideas with my teachers	1 2 3 4 Extra year/masters level	3.83 3.73 3.46 3.56 3.20	.156
Q7	ICT allows me to exchange ideas with my colleagues	1 2 3 4 Extra year/masters level	3.86 3.73 3.44 3.69 2.80	.070
Q8	ICT make it easier for me to pass the course	1 2 3 4 Extra year/masters level	3.85 3.73 3.37 3.66 2.60	**.019**
Q9	ICT help me to follow the course	1 2 3 4 Extra year/masters level	3.86 3.88 3.58 3.84 2.20	**.008**
Q10	ICT allow me to apply the acquired knowledge	1 2 3 4 Extra year/masters level	3.88 3.70 3.63 3.50 2.40	**.026**
Q11	ICT facilitate my self-assessment processes	1 2 3 4 Extra year/masters level	3.82 3.68 3.47 3.59 3.00	.161
Q12	I like teachers to use ICT in the subjects	1 2 3 4 Extra year/masters level	3.93 3.71 3.49 3.59 2.60	**.015**
Q13	ICT help the teacher to guide the working methodology	1 2 3 4 Extra year/masters level	3.89 3.80 3.39 3.22 2.60	**.000**
Q14	ICT allow me to plan my work	1 2 3	3.98 3.78 3.25	**.000**

		4	3.34	
		Extra year/masters level	2.60	
Q15	ICT allow me to better evaluate my progress in the subject	1	3.82	**.018**
		2	3.76	
		3	3.61	
		4	3.59	
		Extra year/masters level	2.20	
Q16	ICT enhance the pace of work	1	3.86	**.030**
		2	3.77	
		3	3.44	
		4	3.84	
		Extra year/masters level	2.60	
Q17	ICT facilitate the presentation of content	1	4.07	**.000**
		2	3.65	
		3	3.51	
		4	3.63	
		Extra year/masters level	2.20	
Q18	ICT facilitate the diagnosis of my learning mistakes	1	3.88	**.001**
		2	3.77	
		3	3.41	
		4	3.59	
		Extra year/masters level	2.00	
Q19	ICT help me to receive assistance from the teacher	1	3.91	**.006**
		2	3.67	
		3	3.53	
		4	3.53	
		Extra year/masters level	2.40	
Q20	ICT facilitate the integration of knowledge from different sources	1	3.95	**.038**
		2	3.79	
		3	3.54	
		4	3.69	
		Extra year/masters level	2.80	
Q21	ICT help me to resolve my doubts	1	3.88	**.005**
		2	3.70	
		3	3.37	
		4	3.50	
		Extra year/masters level	2.40	
Q22	ICT allow me to better communicate with my teacher	1	3.76	**.001**
		2	3.76	
		3	3.37	
		4	3.31	
		Extra year/masters level	2.00	
Q23	ICT allows me to express my emotions more freely	1	3.48	**.021**
		2	3.63	
		3	3.17	
		4	3.38	
		Extra year/masters level	2.20	
Q24	ICT enable the teacher to pay more attention to us	1	3.65	**.004**
		2	3.63	
		3	3.19	
		4	3.50	
		Extra year/masters level	2.20	
Q25	ICT help me to explain my problems to the teacher	1	3.87	**.001**
		2	3.66	
		3	3.34	
		4	3.50	
		Extra year/masters level	2.20	
Q26	ICT help to generate a pleasant atmosphere in the classroom	1	3.64	.094
		2	3.61	
		3	3.36	
		4	3.41	
		Extra year/masters level	2.60	
Q27	ICT help me to ask	1	3.85	**.002**

	others questions	2	3.80	
		3	3.51	
		4	3.44	
		Extra year/masters level	2.20	
Q28	ICT facilitate my social relationship with the group	1	3.82	**.011**
		2	3.83	
		3	3.54	
		4	3.75	
		Extra year/masters level	2.20	
Q29	ICT allow me to publicly show what I do for the subjects	1	3.79	**.021**
		2	3.72	
		3	3.53	
		4	3.66	
		Extra year/masters level	2.20	
Q30	ICT help to show me the way I am	1	3.52	.231
		2	3.73	
		3	3.42	
		4	3.66	
		Extra year/masters level	2.60	

class1 (n) =112**, class 2 (n) =**92**, class 3(n) =**59**, class 4(n) =**32**, Extra yr/Masters (n) = **5.***
Average Mean- 1=3.805**, 2 =**3.75**, 3 =**3.46**, 4=**3.53**, Extra yr/Masters=**2.6**,*
****P<0.05***

In table 5 above, the attitudinal level of EMU IT student towards ICT for learning purpose were evaluated and analyzed based on their class level, to determine the significance differences and correlation and also the mean ranges and its distance from the average mean. Similar question items were used for this section of the investigation, from the table 5 above it is clearly observed that in all the 30 question items used for this study, 25 question items which is about 83.3% of the entire items proved to show that a great significant difference exist between class levels of EMU IT students attitudes towards ICT for learning purposes. This statistically means that the significant value for all the items related to the adoption and usefulness of ICT to students during learning were below P<0.05 point set for this study. By this it appears that various class levels of EMU IT departments holds dissimilar views and displays differences in attitudes towards ICT; thus, no relationship exist between various class level attitudes towards ICT. These differences appears to be based on some areas of learning that involves ICT involvement such as ICT being able to help me gain knowledge related to subject or acquire skills pertinent to my subjects, ICT

being able to diagnose my learning mistakes, ICT being able to facilitate my social relationship with groups, ICT being able to allow me publicly show what I do for a subject etc.

The other 16.6% of the entire question items proves to show that there are no significant differences between class levels of EMU IT students. These item questions proved a significant point value above the P value set for this study. Hence, based on several class level comparison, it proves from the investigation of this study that there is attitudinal differences between and within class levels of EMU IT students regarding ICT for learning purposes.

Respondent VIII, states that "at first I was passionate about this field but as I grew higher in class, everything change and became more challenging. Most times I feel like quitting".

Respondent IX, "I can't imagine being in any other department except this, all my classes have always been interesting especially when it includes practical and technological manipulations. I am in my third year now".

Respondents X, "ICT is everything whether in and out of my classroom mood. It just makes my transitions to higher grades easier".

In a similar work conducted by Udoka (2015), a student he interviewed stated that he was in his third year of schooling in IT department and he could not boast of technological tool he can handle skillfully and the student wished that everything was in theory form and no practical was included. Another student in the same study

opined that all his studies would not have been successful if ICT had not helped to make academics easier and faster for him.

Brečko and Vehovar (2008) have establish that including ICT into pedagogy enables students expand their skills that are important for transition into several next phases of life in the 21st Century; it advances learning patterns and enables higher passion and movement into newer levels of education and also better understanding of student for learning.

Chapter 5

CONCLUSION

This thesis study conducted a survey research on the attitudes of EMU IT students towards ICT for learning purpose and the significant differences or relationships according the class levels, gender and age of students. Three hundred EMU IT students from IT department are participants in this investigative study, which was done in the period of Fall semester of 2015 session in EMU.

Findings from this investigation showed that majority of EMU IT students possessed generally high attitudinal acceptability level towards ICT for learning purposes. In slim cases we do have students displaying indifference towards ICT. Outcome also showed that students are highly and positively motivated and also have high receptive attitude towards the usage of ICT and its importance to their entire and general academic purposes. The responses from purposive selected students during interview also proved to support the findings of the study, showing that ICT has been of great value to their educational advancement, without which, studies would have been so boring and uninteresting. Bector (2002) in a similar work found that ICT is forever useful and users show great acceptance towards ICT for learning and other purposes.

Likewise, regarding the significant difference based on age, gender and class of students, this study showed that no major significant difference between male and

female display of attitudes towards ICT for learning purpose, because it was clearly found that male and female EMU IT students had different views on few cases relating to ICT importance to learning, but majority of the total responses showed an outcome that both the boys and girls of EMU IT students proved no significance difference on attitude towards ICT in learning. Udoka (2015) also in his study found similar result showing that no significant difference occur between boys and girls of EMU IT students, regarding their awareness and attitude towards ICT for educational purpose.

This study also found that that younger student of EMU IT students has less negative attitude towards ICT for learning compared to the older students, and also the older students quite hold slightly larger opinion regarding lack of interest towards ICT than their younger counterparts. But all the age groups can also be proven from the study outcome that they all hold a large and strong attitude towards ICT acceptance and general usefulness for learning. Also, half of the entire response of the study showed that there is no significant difference between the age groups of EMU IT students and others showed that significant differences exist between age groups of learners of EMU IT students. Weston and Brain (2010) showed in their study that students of young age are mostly more motivated on subjects that contains ICT involvements. For class level, the study showed that there is huge significant difference amongst class levels of EMU IT students' attitude towards ICT in learning.

This investigative study goes to conclude therefore, that EMU IT students have a very great level of positive attitude towards ICT for learning purposes. Also, it goes to show that students' attitudes towards ICT based on gender and age groups is moderately significant and for class levels it is highly significant.

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APPENDICES

Appendix A. Permission to conduct a survey with IT students

Head of Department
Information Technology
EMU
Gazimagusa, KKTC
30th of November, 2015

Dear Prof. Dr. Mustafa Ilkan,

Application for permission do survey with IT students

I am a master student in the Education faculty. I study a master degree in ICT in Education and I would like to ask for permission to do my questionnaire survey/data collection.

ICT in Education

Department of Education,

Eastern Mediterranean University

Nazu Shaukenova

ID: 135366

Phone: 0 533 889 06 69

Appendix B. Questionnaire

Dear Respondent,
My name is Nazu Shaukenova, I am a master's student in the Information and Communication Technology Department at Eastern Mediterranean University, Famagusta. In the scope of my research, the aim is to investigate IT students' perception towards ICT uses in academic tasks: case study EMU. The information and data gathered via the questionnaire will build a basis of the scientific work and will not be used for any other purpose.

Demographics

Gender: Male ☐ Female ☐

Age: 18 – 20 ☐ 21 – 22 ☐ 23 and older ☐

Grade: ☐

Country: ☐

S/N	ITEM	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
1.	ICT help me to gain knowledge related to the subject					
2.	ICT help me to develop skills related to the subject					
3.	ICT help me to do my academic homework faster					
4.	ICT help me to do my academic homework better					
5.	I use ICT when I want to know more about a topic					
6.	ICT allow me to exchange ideas with my teacher					
7.	ICT allow me to exchange ideas with my colleagues					
8.	ICT make it easier for me to pass the course					
9.	ICT help me to follow the course					
10.	ICT allow me to apply the acquired knowledge					
11.	ICT facilitate my self-assessment processes					
12.	I like teachers to use ICT in the subjects					
13.	ICT help the teacher to guide the working methodology					
14.	ICT allow me to plan my work					
15.	ICT allow me to better evaluate my progress in the subject					
16.	ICT enhance the pace of work					
17.	ICT facilitate the presentation of content					
18.	ICT facilitate the diagnosis of my learning mistakes					
19.	ICT help me to receive assistance from the teacher					
20.	ICT facilitate the integration of knowledge from different sources					
21.	ICT help me to resolve my doubts					
22.	ICT allow me to better communicate with					

	my teacher					
23.	ICT allow me to express my emotions more freely					
24.	ICT enable the teacher to pay more attention to us					
25.	ICT help me to explain my problems to the teacher					
26.	ICT help to generate a pleasant atmosphere in the classroom					
27.	ICT help me to ask others questions					
28.	ICT facilitate my social relationship with the group					
29.	ICT allow me to publicly show what I do for the subjects					
30.	ICT help to show me the way I am					

Appendix C. Interview Questions

1. How can you describe the general trends/features of the ICT tools used for learning purpose?
2. Generally, it is perceived that ICT tools are useful when it comes to carrying out academic tasks and for learning purpose. On a personal assessment what is your view on ICT usage?
3. Your access towards ICT tools within and outside the university appears to be limited or free?

   If limited, could it be based on lack of competence, availability, nor exposure to such tools by tutors?

   If free, how frequent is your access to such tools.
4. ICT is believed to have bridged the gap or fall of classroom instructors when it comes to educational advancement.

   What is your perception towards this view?

   And can you say it really led to the massive integration of ICT tools in learning processes?
5. What is your view on the adoption of ICT? Based on age of students, gender and grades of students, and also the nationality of the students?
6. Do you encounter any professional support whenever you have access to ICT tools during learning?

   If yes, were you supported via automatic system support or was it a professional personal support?

   If no, is it a norm or difficulty on the school or environment?
7. What academic tasks do ICT tools supports in the daily activities of the university students?