

Social Media and Technology Usage and Attitudes of Students- An Example of EMU

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ABSTRACT

The Internet and communication technologies have grown dramatically in recent decades, and these technologies have played an important role in education and learning. The main objective of current research was to evaluate Eastern Mediterranean University (EMU) students' social media and technology usage and attitudes. The subjects of current research were all undergraduate students registered to the 2018-2019-fall semester in EMU. The data collection tool had two sections. The first part of the questionnaire included questions about sex, age, class level, and faculty of participants. The second part of the questionnaire contained questions related to students' usage and attitude toward social media and technology. T-test and ANOVA were used for analyzing data. SPSS software version 22 was used to analyze the data. The results showed that EMU students had a positive attitude toward the use of technology. Also, EMU students generally have moderate anxiety when they do not have access to technology. Meanwhile, the results showed that students do not have a negative attitude toward the application of technology. However, the score of the preference for task switching subscale was 12.44, suggesting the students' preference for task switching and simultaneous work on multiple projects. Based on the results achieved in this study, it can be said that there is a possibility to use the technology and the social media in EMU students' education. Using these tools, we can expect to improve student performance in research and academic affairs.

Keywords: social media, technology, attitude, usage

ÖZ

İnternet ve iletişim teknolojileri son yıllarda çarpıcı bir şekilde büyüdü ve bu teknolojiler eğitim ve öğrenimde önemli bir rol oynadı. Mevcut araştırmanın temel amacı DAÜ öğrencilerinin medya ve teknoloji kullanımlarını ve tutumlarını değerlendirmektir. Mevcut araştırma konuları Doğu Akdeniz Üniversitesi'ndeki 2018-2019 Güz döneminde kayıtlı olan tüm lisans öğrencileriydi. Veri toplama aracı iki bölümden oluşmaktadır. Anketin ilk kısmı cinsiyet, yaş, sınıf düzeyi ve katılımcı fakültesi hakkında sorular içermektedir. Anketin ikinci kısmı, öğrencilerin sosyal medya ve teknolojiye karşı kullanımı ve tutumu ile ilgili sorular içermektedir. Verilerin analizinde T testi ve ANOVA kullanılmıştır. Verilerin analizinde SPSS versiyon 22 kullanılmıştır. Sonuçlar DAÜ öğrencilerinin teknoloji kullanımına karşı olumlu bir tutum sergilediklerini göstermiştir. Ayrıca, DAÜ öğrencileri genellikle teknolojiye erişemediklerinde orta derecede kaygı duyuyorlar. Bu arada, sonuçlar öğrencilerin teknolojinin uygulanmasına karşı olumsuz bir tutumunun olmadığını göstermiştir. Bununla birlikte, görev değiştirme alt ölçeği tercihinin puanı, 12.44'tür; bu da öğrencilerin görev değiştirme konusundaki tercihini ve birden fazla projede eşzamanlı çalışmayı önermektedir. Bu çalışmada elde edilen sonuçlara dayanarak, DAÜ öğrencilerinin eğitiminde teknoloji ve sosyal medyayı kullanma ihtimalinin olduğunu söyleyebiliriz. Bu araçları kullanarak, araştırma ve akademik işlerde öğrenci performansını iyileştirmeyi bekleyebiliriz.

Anahtar kelimeler: sosyal medya, teknoloji, tutum, kullanım

DEDICATION

TO MY FAMILY

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TABLE OF CONTENTS

ABSTRACT	iii
ÖZ	iv
DEDICATION.....	v
ACKNOWLEDGMENT	vi
LIST OF TABLES	ix
1 INTRODUCTION	1
1.1 Problem Statement.....	4
1.2 Purpose.....	6
1.3 Research Questions	6
1.4 Importance	7
1.5 Limitation.....	7
1.6 Definition of Key Terms.....	7
2 LITERATURE REVIEW	9
2.1 Attitudes	9
2.2 Social Media in Education	10
2.3 Educational Benefits of Social Media	11
2.4 Social Media and Academic Learning.....	13
2.5 Social Media Usage of Students.....	13
2.5.1 Support	13
2.5.2 Augmenting Educational Procedures.....	14
2.5.3 Academic Performance	14
2.5.4 Information Transmission and Collaboration	15
2.6 Related Research Studies	16

3 METHODOLOGY.....	19
3.1 Research Design	19
3.1.1 Quantitative Research Methods.....	19
3.1.2 General Survey Method	20
3.2 Participants.....	21
3.3 Data Collection Tools	24
3.4 Sampling Techniques	26
3.5 Validity and Reliability.....	26
3.6 Data Analysis	27
4 RESULTS.....	28
4.1 The Level of Media and Technology Usage and Attitudes of EMU University Students	28
4. 2 Inferential Statistics	29
4.3 Discussion	40
5 CONCLUSION.....	43
REFERENCES	45
APPENDICES.....	57
Appendix A: Questionarie.....	58
Appendix B: Post Hoc Test.....	62
Appendix C: Turnitin Originality Report.....	75
Appendix D: Application for Ethics.....	76

LIST OF TABLES

Table 4.1. Results related to the level of media and technology usage and attitudes of EMU university students in terms of the studied subscales	29
Table 4.2. The mean of the studied subscales by gender of the participants in the present study	29
Table 4.3. Independent T-test results to examine the relationship between the means of the subscales studied and the gender of the participants in the study.....	30
Table 4.4. The descriptive results of university student's media and technology usage and attitudes and age	31
Table 4.5. The results of one-way ANOVA to examine relationship between university student's media and technology usage and attitudes and the age of the university students	32
Table 4.6. The results of post hoc test of the relationship between university student's media and technology usage and attitudes and age of the university students	33
Table 4.7. The descriptive results of student's media and technology usage and attitudes and grade	34
Table 4.8. ANOVA results of the relation between studied subscales and grade of EMU Students	35
Table 4.9. The results of the post hoc test of studied subscales and grade of EMU Students.....	36
Table 4.10. The descriptive results of university student's media and technology usage and attitudes and faculty.....	37

Table 4.11. ANOVA results of the relation between studied subscales and faculty of EMU Students	38
Table 4.12. The results of the post hoc test based on the LSD of the relation between university student's media and technology usage and attitudes and faculty	62

LIST OF FIGURES

Figure 3.1. The number of students based on gender.....	21
Figure 3.2. Students' age distribution.	22
Figure 3.3. Students' grade distribution.....	23
Figure 3.4. Faculty of students participating in current research.	24

Chapter1

INTRODUCTION

In recent years, a variety of electronic and computer technologies including smartphones and computer games were arisen due to major advances in computer and electronics technologies. The social network is one of the most important Internet applications. Social network like Facebook, Twitter, Whats App, Viber, Telegram, etc., are of social networking that grew rapidly over the short term and are becoming more and more popular amongst the public (Lee & Lee, 2010). These social networks have been found to have a major impact on the forming and directing public opinion at a variety of levels such as national, regional, and global levels (Alavi, Jannatifard, Maracy, Alaghemandan, & Setare, 2014).

The communication of people and the execution of business have been transformed by social media infiltration in the daily life. Meanwhile, social media has changing the way of teaching in universities and schools. In the field of education, social media is a rapidly growing field of research for college student information (Lee & Lee, 2010). Today, social networks are considered part of the lives of many students, and these networks have a profound impact on various aspects of student life such as study, academic skills acquisition, and academic performance (Eltantawy & Wiest, 2011).

The use of technology in schools has been increasing day by day since the 21st century. With the development of Internet technologies and other advances in recent decades, Information and Communications Technology (ICT) are becoming increasingly important tools for instructing and learning (Kitson, Fletcher, & Kearney, 2007). Among the most widely used technologies in schools and universities are email, telephone systems, and projectors and computers in classrooms. Instructing with technology is indispensable to the evolution of 21st century's students. The integration of such useful technologies is essential for all schools and universities, and this will prepare students in the 21st Century. However, one of the most important benefits of using technology in education is that it makes teaching and learning attractive and enjoyable, and this helps students' educational performance and can play an important role in enhancing overall performance. Computers, smartphones, and tablets make learning attractive to 21st century students if used in education (Qian & Clark, 2016).

The smart phone is the noticeable technological tool that used by students, all around the world. This has led to consider the smartphone as a useful tool for accessing information and academic lessons regardless of time and place (Göksu & Atici, 2013). The time spent for social media mounts very rapidly, this can influence students' educations and daily lives. For example, in the study of Teclehaimanot & Hickman (2011) it has been concluded that universities that use social networking technology can effectively and positively motivate students in their specialty and work. Increasing students' motivation can be effective in their achievements, grades, and other psychological aspects of individuals (Teclehaimanot & Hickman, 2011).

Social media usage has widespread in the lives of many people all over the world. In the field of student education, the media can have many applications, such as exchanging information between students, sharing academic interests with others, understanding what students think about their studies, creating groups, enhancing the performance of e-textbooks by linking students to social networks for collaborative purposes (Cheston, Flickinger, & Chisolm, 2013).

One of the benefits of the media is their increased active involvement of students in academia topics, and the media facilitates student communication with working staff (Lau, Lui, & Chu, 2017). However, some researchers have reported the negative effects of social media on teaching activities. Students have been found to be reluctant to violate their privacy and do not like to share their ideas with teachers via social media (Gascó, Llopis Taverner, & González-Ramírez, 2015). It also takes a long time for social networking and can contain some distracting components such as advertising, alerts, suggestions, or games that can distract students and ultimately reduce students' academic performance. (Gonzalez, Gasco, & Llopis, 2016).

Today, it seems evident that some technological literacy is required for all people who live in our society. People can, and perhaps should, become technologically literate through formal schooling. The acceptance of technology and media can be rejected by who have no ability to use technology. Individuals have varied in the ease of technology adoption and there are many differences between "digital natives" and "digital immigrants" (Suša, 2014).

A generation of young people who borned in the digital age and they are inherently have high perception about technology are referred as digital natives (Buckingham,

2013; Prensky, 2001). On the other hand, digital immigrants are those who have learned to work with computers at certain stages of their lives, especially in adulthood. Therefore, it is thought that this group of people will resist the adoption of new technologies and also face difficulties in using them (Vodanovich, Sundaram, & Myers, 2010). A positive attitude toward technology may also affect such behavior.

Allport (1935) defined attitude, as a combination of beliefs and emotions that prepares a person to look at others, objects, and groups in a positive or negative way. Usage can be defined as the action of using something or the fact of being used (Allport, 1935).

1.1 Problem Statement

Social networks are among prevalent Web 2.0 tools. These networks map and assess the relationships and interactions between individuals, groups, organizations, computers and information (Conole & Alevizou, 2010). Social networking has enabled users to interact with each other by creating personal profiles and inviting friends and co-workers and making email and messaging very fast and easy. These personal profiles include any kind of information, photo file, video, audio and blog (Kaplan & Haenlein, 2010).

Nowadays, part of the Information and Communications Technology (ICT) users is scholars of various fields of science who use their resources and facilities to access information and conduct scientific exchanges (Weiss, Nolan, Hunsinger, & Trifonas, 2006). Hence, social networks with their own specific features provide new scientific connectivity and are considered as ways to replace traditional methods. Because they

are transforming the methods of interaction and information exchange between researchers.

Although, the use of these networks facilitates communication with friends, but equally reduces students' study time (Thompson et al., 2008). However, social networks have no negative effects solely and can be used optimally for educational purposes by using them in the educational process (Pempek, Yermolayeva, & Calvert, 2009).

It seems that with the increasing popularity of social media as well as the stronger network technology development, most students and researchers are joining to the research communication and using their services, share scientific resources, exchange views, follow up researches of others or keep up with current research (N. Kumar, 2012).

The existence of social networks due to strong communication and interaction functions has many advantages in various areas that can be used to enhance their use. Failure to use the virtual social network with scientific goals and ignoring them may result in the inability of students to use scientific communication tools and consequently lag behind them (Bik & Goldstein, 2013).

Since students are among the most popular social networking users (Chou & Lim, 2010) and academic classes are among the most influential classes in the community, they have a key role to play in research and development of the country, the need for knowledge and usage and attitude toward these networks in relation to academic and educational goals are of interest.

Also, in fact, there is many reports about students views about social networking including Facebook and Twitter on higher education academic purposes, the assessment of the student's social media and technology usage and attitudes are very important for evaluation of student performance. Hence, it is very important to evaluate university student's social media and technology usage and attitudes for their future education life.

1.2 Purpose

The main purpose of this study is to investigate the social media and technology usage and attitudes of the EMU students.

1.3 Research Questions

1. What are the level of social media and technology usage and attitudes of university students?
2. Is there any relation between university student's social media and technology usage attitudes and gender of the university students?
3. Is there any relation between university student's social media and technology usage attitudes and age of the university students?
4. Is there any relation between university student's social media and technology usage attitudes and filed of studies (faculty) of the university students?
5. Is there any relation between university student's social media and technology usage attitudes and class level (grade) of the university students?

1.4 Importance

This study examined the attitudes and usage patterns of media and technology among EMU students. This can be of great importance to teachers and policymakers, and to investigate the factors involved in this area. The students' attitudes towards technology and media determine the usefulness of technology and media in educational affairs.

1.5 Limitation

The information in current study are gathered by self-report of questionnaire. The main limitations of using this type of tool is the possibility of providing incorrect answer.

1.6 Definition of Key Terms

Technology: Technology is the knowledge or skill for making software (soft or hard). This knowledge/skill may be complex or simple, personal or common, new or old, and so on. Technology is part of culture.(Wahab, Rose, & Osman, 2012).

Social Media: A collection of Internet-based applications that rely on the technological foundations of the Web 2 to create and exchange user-generated content. (Kapoor et al., 2018).

Attitude: Attitude was defined by Allport (1935), a combination of beliefs and emotions that prepares a person to look at others, objects, and groups in a positive or negative way (Allport, 1935).

Digital Natives: A generation of young people who are born in the digital age are referred as Digital natives and they are inherently have high perception about technology (Prensky, 2001).

Digital Immigrants: those who have learned to work with computers at certain stages of their lives, especially in adulthood. Therefore, it is thought that this group of people will resist the adoption of new technologies and also face difficulties in using them (Vodanovich et al., 2010).

Chapter 2

LITERATURE REVIEW

2.1 Attitudes

Attitudes was defined by Eagly & Chaiken (1993) as a psychological propensity that can be seen in the appraisal of some entities with some amount of favor or disfavor. The experience, social factors and learning make attitudes toward thing, and attitudes can have an impact on behavior. Meanwhile attitudes are long-lasting, they can alter. It has been stated that there are many elements that construct attitudes. In general, cognitive, effective and behavioral elements make up attitudes (Eagly & Chaiken, 1993).

It has been suggested that attitudes according to the function they can bring about for the individual, are held on or changed (KATZ, 1960). This means that certain attitudes were held by persons to the extent that they profit from keeping that attitude.

Grasping student attitudes toward social media application in education can assist instructors conducted social media in their courses effectively. There are researches reported social media that has usually positive impact in student erudition at the time used in the instruction (Tur, Marín, & Carpenter, 2017).

There are many determinants that can affect a student's attitude about learning. The kind of student attitudes is far a positive or a negative attitude about technology. Students' anti-technology attitudes in classrooms may arise, if students are unaccustomed with technology, and they can feel the accomplishment of technology in the classroom a hindrance to their erudition.

The application of technology in classrooms also affects student attitudes. The Students' opportunity to manage their own learning is permitted by implementing technology. The opportunity of independent erudition is provided for students. The technology leads to students constantly participate in learning, rather than suppose education only in a classroom take place (Kozma, 2008). As a result, positive attitudes about accomplishment of technology in classrooms have stated to be embrace by students as an erudition instrument. This has led to augmentation in problem solving, high level thinking and writing (M. Ross, Morrison, & Lowther, 2010).

2.2 Social Media in Education

Web 2.0 technologies including social media make easy social collaboration and interaction (Bingham & Conner, 2010). Facebook and Twitter are among the top social network that are used by many people (Tancer, 2012). Furthermore, social networking consists of a major section of students' academic lives (R. Junco, Heiberger, & Loken, 2011). Social networking including, Twitter, Facebook, Instagram, LinkedIn and etc are more popular among people mainly young individuals. In the studies conducted in US, it was reported that 70% to 90% of students use Facebook, while 37% utilize Twitter (Dahlstrom, 2011). For personal and educational purposes, Facebook was reported as the most popular social media

(Tess, 2013) and on average, each student uses social media 10 to 60 min daily (Hew, 2011). Meanwhile, academic institutions utilize social media for internal management of instructional purposes (Forkosh-Baruch & Hershkovitz, 2012).

The usage of social media for classroom instruction has been caused concerns. In spite of this fact many teachers adopt using it on personal level. In study implemented by (Moran, Seaman, & Tinti-Kane, 2011) it has been shown that higher education faculties be aware of social media sites and over 90% of faculties used teaching networks in teaching. The higher portion of social media usage were related to online videos (61%) and using social media sites such as Facebook or Twitter only constituted 4% and 2% usage, respectively. Meanwhile, instruction posts composed the high portion of social media usage than contents made by students.

Students are reported to have a positive attitude toward using new technologies (S. Kumar & Vigil, 2011). The lack of well-defined approaches to evaluate social media usage caused faculty believing that this technology must be utilized for informal activities (Chen & Bryer, 2012) or the social media more related to teacher than students. There is clearly a gap between teaching and learning- a disconnect in technology understanding which inhibit technology usage to improve instructional practices and learning outcomes (ED, 2010, p. 10).

2.3 Educational Benefits of Social Media

Generally, the researches listed below outlined the pedagogic advantages of application of social media.

Laru et al. (2012) explained how erudition activities designed by application of social media and face-to-face activities can impact students' learning performance in small

groups. Their study showed that by using social media tools along with multiple tasks augment knowledge attainment of students (LaRue, 2012).

Novak, Razzouk and Johnson's (2012) showed the possible of bolster up learning by social annotation instruments in a cooperative conditions and evaluated their effects on erudition performance. The results of this study showed that these instruments have educational advantages, but do come with a given erudition curve. They advocated offering sufficient guidance support as these tools are being applied (Novak, Razzouk, & Johnson, 2012).

Students were inquired about their views about the usage of social media in the classroom in study conducted by Al-Bahrani et al. (2015). The findings of the study indicated that the privacy is affair that students concerned about but the one-way connection with faculty was preferred by students. Also, the use of social media in a non- mandatory manner in the class was emphasized by Al-Bahrani et al, 2015 (Al-Bahrani & Patel, 2015). When students have engaging with social media and communicating with their friends, privacy was their primary concern.

Positive effects of Twitter along with other mobile applications were reported by Bicen (Bicen, 2014). In this research it has been found that students used this media had an increase in student-teacher and global student-student interactions

From the literature it can be stated that social media are as an advantageous tool within instruction. While the efficacy of social media usage in student learning is very important, it is also important to know the attitude of students about its use. A

robust knowing on how social media can be instrumental in instruction will attain by bringing into focus on student point of views about social media can offer.

2.4 Social Media and Academic Learning

The uses of social media in formal and informal learning have risen to look for knowledge. Although, these activities can be merged into educational procedures, the students utilize social media mainly for communication interchange views and entertainment purposes, (Wodzicki, Schwämmlein, & Moskaliuk, 2012). Some studies showed that social network usage such as Facebook can impact students' education (Dwamena, Kwabla, & Kanyir, 2016). Among 600 participants in a study conducted in Pakistan, it was reported that 90% of students used Facebook for academic interests too (Hussain, 2012). Moreover, in a study evaluated using Facebook, it was reported that 71.25% of 160 researchers in philosophy and social studies at the University of Delhi used this social network during conducting their study into cooperative learning processes (Madhusudhan, 2012). Twitter was used by 60% of the Pharmacology Department of Boston University students for augmenting their knowledge and academic affairs (Dvorkin Camiel, Goldman-Levine, Kostka-Rokosz, & McCloskey, 2014).

2.5 Social Media Usage of Students

Social media are used by students to reinforce their research activities and augment their academic performance.

2.5.1 Support

It has been reported that social media communication has made students more connected to college, helping them to continue their studies and to enter the next level of their instruction (Gray, Vitak, Easton, & Ellison, 2013). In this study it has been concluded that Facebook is the most productive social media for bolstering up

their educational activities. For supporting educational processes in a study more than 70 accounts on two popular social media, Facebook and Twitter, were created by different universities (Forkosh-Baruch & Hershkovitz, 2012) and the results of knowledge dissemination were well promising. In terms of the impacts of social media on self-esteem a study was conducted in Griffith University in Australia. The results indicated enhanced students' effectiveness in academic performance and concluded that social media networking can be considered as important supportive tool for learning purposes (Tower, Latimer, & Hewitt, 2014).

2.5.2 Augmenting Educational Procedures

Various studies reported that social media networking can initiate novel perspectives in the knowledge acquiring process (Wodzicki et al., 2012). The participation of students in formal and informal learning becomes possible with social networks. The interactions of students with persons with similar view and communication of information for academic purposes are occurring in social media networking (Madge, Meek, Wellens, & Hooley, 2009). Meanwhile, in a study conducted in Germany (Wodzicki et al., 2012) it has been reported that 20% of students exchange their knowledge via StudiVZ, German Facebook. In the study that conducted in University Sains Malaysia it has been reported that the students consider Facebook as helpful tool to support and augment English language skills (Kabilan, Ahmad, & Abidin, 2010). Also, it has been stated that the involvement of Facebook in educational process can augment student motivation and apprehension.

2.5.3 Academic Performance

There are few studies that mention to the positive impacts of social network service on scholastic achievement. But, some researches concealed the positive impacts of social media in advanced education (Waycott, Sheard, Thompson, & Clerehan,

2013). Also, there are some reports of negative impacts on students' "academic performance" (Kirschner & Karpinski, 2010). The academic performance is depended upon attention span, student attributes, academic competence and time management skills (Paul, Baker, & Cochran, 2012). Paul et al. (2012) reported significant negative impact of the time spend on social network services on students' scholastic achievement. Meanwhile, Junco (2015) stated that "time spent on Facebook was significantly negatively predictive of Grade point average for freshmen but not for other students" (Reynol Junco, 2015). When social network services were applied for learning goals low performance (Grade point average) was found among students (Rosen, Whaling, Carrier, Cheever, & Rokkum, 2013).

2.5.4 Information Transmission and Collaboration

In a study 71.25 percent of students that included in research in Delhi University in India stated collaborative learning benefits from social media usage (Madhusudhan, 2012). Information transmission was augmented by use of Facebook in students' academic activities in Islamia University in Pakistan (Hussain, 2012). The inclusion of social media in group-based learning process was of assistance in the Nursing Department of Pittsburgh's University (LaRue, 2012). Generally, social network services have fruitful outcomes, particularly in intercommunication and cooperation affairs.

It can be concluded that the students appreciate using social media networking in their educational processes. Generally, successful results were achieved when social media used in academic purposes. For students, social media is a new favourable instrument, or perhaps a fresh "companion" to assist them in academic era and their research, despite the fact that the effectiveness of social media to improve their academic performance is not yet clear.

2.6 Related Research Studies

Attitudes towards technology were evaluated by Edison and Geissler (2003) using a new questionnaire and factors that were involved in the rejection or acceptance of new technologies were examined (Edison & Geissler, 2003). Individual and personal factors related to attitude toward technology were also examined in this study. The results indicated that among the 605 participants in the study, those with a positive attitude toward new technologies were younger, with more complex cognitive processes and more optimistic.

Attitudes toward technology, frequently used computer programs, reasons for frequent use of social networking sites, and basic computer skills among high school graduates in 2013 to 2014 were studied by Faruk Sozcue et al. (2015) (FarukSozcu, ErkanTaskin, Ipek, Simsek, & Kınay, 2015). 250 Participants were randomly selected. The random selection had six steps including defining the population, choosing sample size, listing the population, assigning numbers to the units, finding random numbers and selecting sample. Among the 250 participants randomly found in this study, those who had acquired computer skills in elementary or secondary education had the highest academic performance at the university.

A questionnaire were developed by Rosen et al. (2013) to examine the usage and attitudes of people towards media and technology. 942 participants were used to complete the questionnaires. Subscales such as public social media use, internet search, smartphone use, emailing, text messaging, video gaming, internet dating, Facebook friends, watching TV in four subscales: Positive Attitude, Negative Attitude, Technology Dependency, and Attitudes to perform several tasks

simultaneously were evaluated (Rosen et al., 2013). The results showed that the questionnaire developed in this study had good validity and reliability. Therefore, the use of this questionnaire was recommended in a variety of studies.

The validity and reliability of the technology and media attitudes and usages questionnaire developed by researchers at California State University were assessed by Özgür (2016) in Turkey. 913 students studying in different colleges and grades were attended to the study. The results showed good validity of the questionnaire and good correlation between subscales with split-half test (Özgür, 2016).

Computer usage and attitude among Saudi students was studied by Alothman et al. (2017). The results indicated that although students were using the computer for an average of 45 hours per week and had a positive attitude toward it, they did not use technology, especially computers, for educational purposes (Alothman, Robertson, & Michaelson, 2017). In this study, factors affecting attitude toward computer were also studied, and these factors were listed as parents' motivation, study town, English skills, but gender was not found to be effective (Alothman et al., 2017).

In a study it has been concluded that social networking website can offer assistance to instruction, cooperation and connection in advanced education conditions (Hrastinski & Dennen, 2012).

The Application of social media to construct Personal Learning Environments (PLE) was stated by Dabbagh and Kitsantas (2012) as a pedagogical way to merge formal and informal erudition (Dabbagh & Kitsantas, 2012). These PLEs can hold up self-

regulated learning of the students at 3 levels: personal information management, social interaction and collaboration, and information aggregation and management.

As it's seen from the literature, assessment of the student's media and technology usage and attitudes is very important for evaluation of student performance. Therefore, this research subject has been proposed as a thesis proposal.

Chapter 3

METHODOLOGY

The main goals of this research was to investigate the media and technology usages and attitudes of the EMU students.

3.1 Research Design

The data that is used in this study were gathered using the quantitative research approach and the general survey method.

3.1.1 Quantitative Research Methods

The scientific methodologies that concern with numbers and any quantifiable variable in a consistent manner of exploration of circumstances and their linkages are called quantitative research methods. Quantitative research methods are used to reply inquiries about associations within quantifiable variables to describe, forecast and monitor a phenomenon (P. D. Leedy & Ormrod, 2014).

Verification or invalidation of the tested hypothesis is done by quantitative study. The quantitative research method is used by researchers to recognize variables that they aimed to apply in their study and go on with facts gathering bound up those variables.

According to the hypothesis or theory, quantitative research method typically commences with data gathering and it proceeds with the use of descriptive or inferential statistics.

Inferential statistics utilized a haphazard specimen of information results from a population to explain and make deductions about that population. Inferential statistics are used when it is impossible to study the whole population. As an example, It is impossible to measure the diameter of all nails made in the factory. This is done by measuring a number of nails as a random sample of the entire population. The information from the samples can be used to infer about the entire population.

3.1.2 General Survey Method

A survey is any activity that gathers data systemically and methodically by applying well-defined notions, practices and procedures about attributes of interest from some or all units of a population, and gathers such data into a functional synopsis list. Demographic variables are often weigh in survey research, and are used to demonstrate the attributes of the population evaluated in the specimen. The preferences and perspectives of population are usually evaluated by surveys, and self-report scales are used by many to assess people's attitude and preferences about various options existing on a scale (Walliman, 2017).

Survey research method is one of the common popular methods used in ICT studies. It is extensively employed as a procedure as result of the essence of the ICT studies that entails diverse interests of state, foundation and technologies related with it.

Research on large and small populations is defined as survey research by selecting samples from those populations and discovering relative evidence, distribution and relationships between them (Hackett, 1981).

The main purpose is to obtain knowledge about a large population by evaluating a sample of that population; hence it is mentioned to as expressive or standard-setting investigation. In this way of research, a researcher exposed respondents to a sequence of queries, give a synopsis of their answers in percentages, frequency distribution and some other statistical approaches. Face-to-face interviews, telephone interviews, Internet-based interviews by mail or web or the common approach using questionnaires are used typically in survey research.

3.2 Participants

The participants of this study were all undergraduate students in Eastern Mediterranean University. The students of all faculties in EMU were chosen for this research. The students' demographic information such as gender, age, grade and faculty were recorded.

436 students completed the current questionnaire, among them 264 and 172 students were male and female, respectively (figure 3.1).

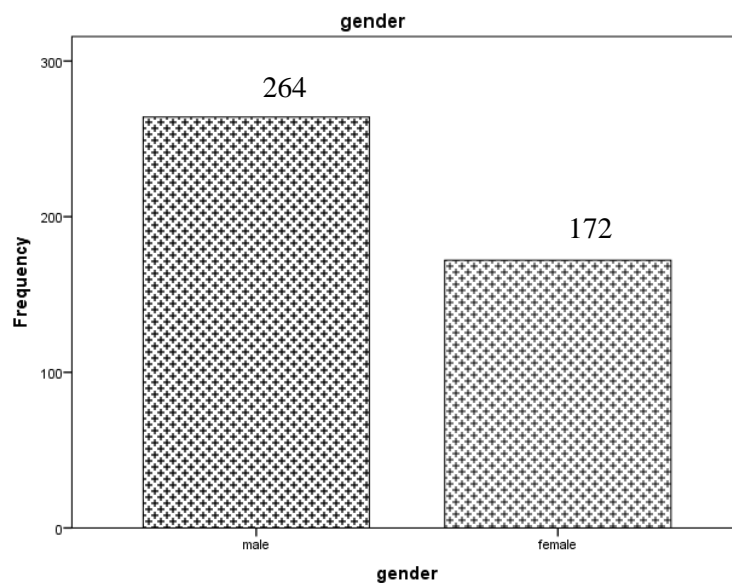


Figure 3.1. The number of students based on gender.

Also, respondents in the current research were divided into four age groups: 18-20, 21-25, 26-30 and ≥ 31 years old. The results indicated that the majority of respondents were in the range of 21 to 25 years old ($n = 312$) and the lowest number was for ≥ 31 years old ($n=14$) (figure 3.2).

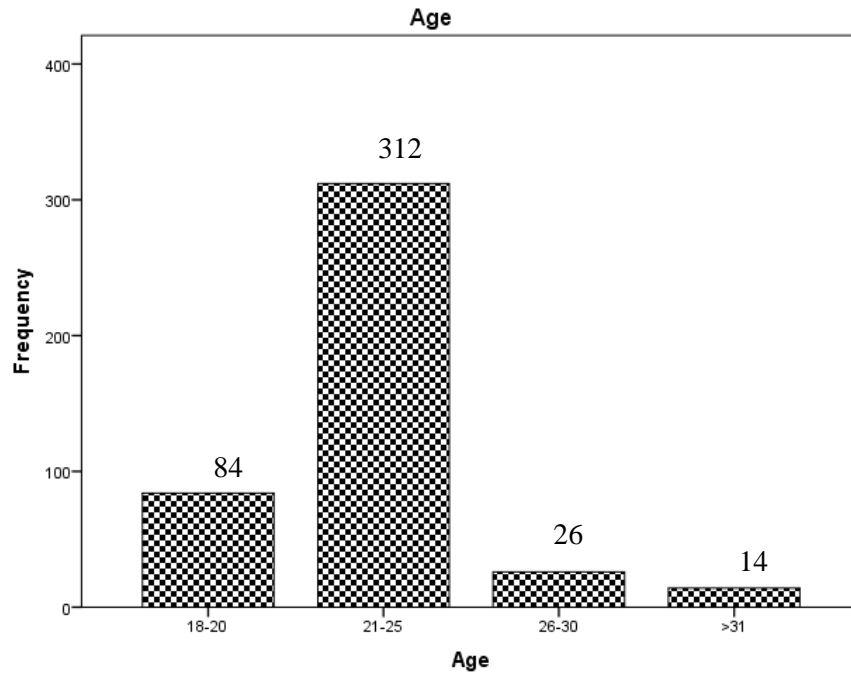


Figure 3.2. Students' age distribution.

Most of the participants in the study were the third and fourth year students (29.9% and 31.2% respectively). The first and second year students were formed 20.2% and 19.3% of the respondents respectively (figure 3.3).

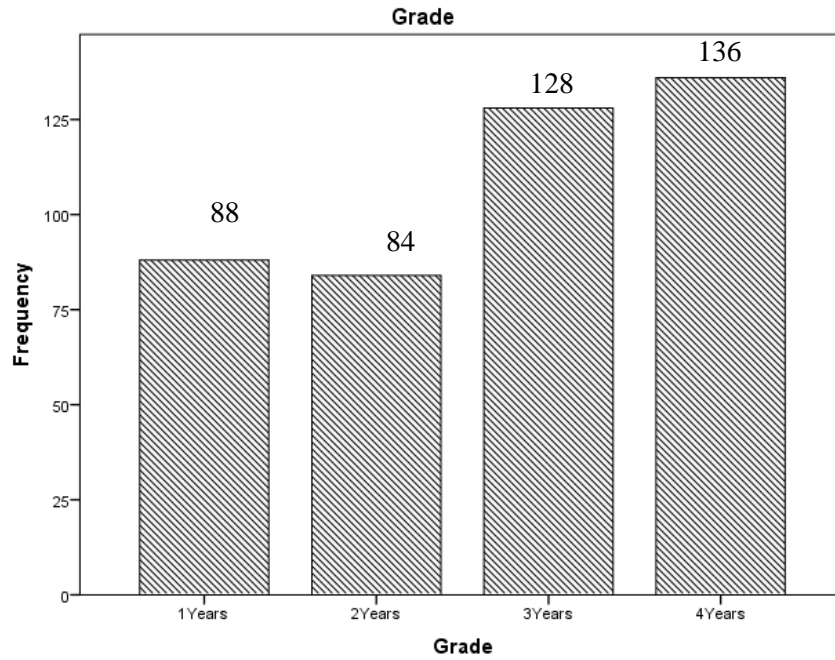


Figure 3.3. Students' grade distribution.

Students from all EMU faculties were used to complete the current research questionnaire. The faculties include education, pharmacy, engineering, art and science, business and economics, architecture engineering, law, communication and media, health science, medicine, tourism and dentistry. Most of the participants were studying at the engineering faculty (19.3%) (figure 3.4).

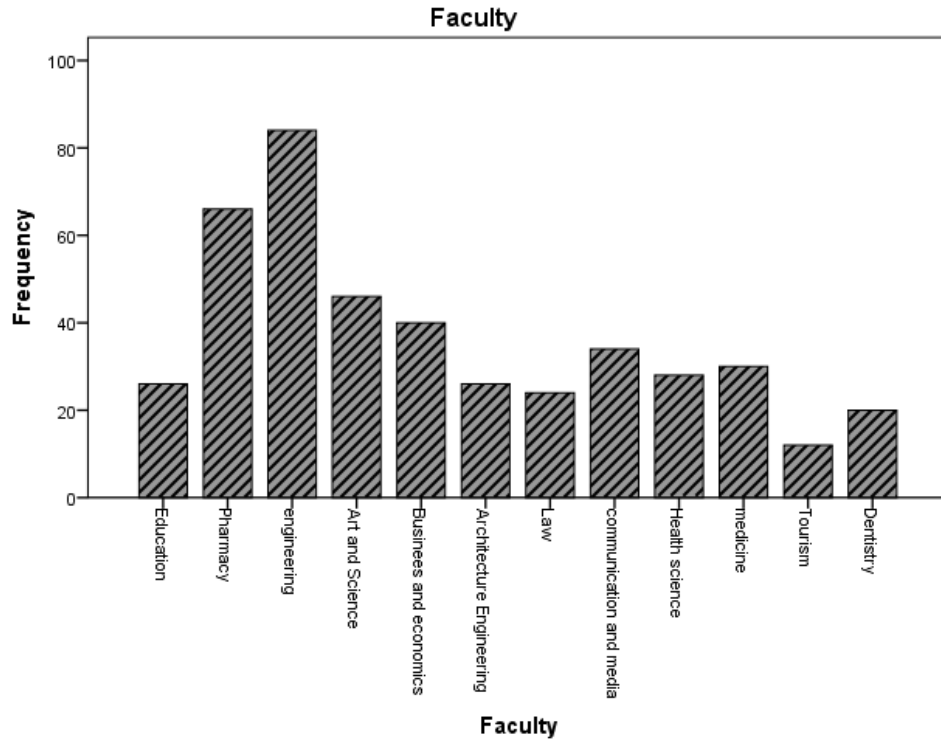


Figure 3.4: Faculty of students participating in current research.

3.3 Data Collection Tools

Quantifiable evidence gathering methods depend upon haphazard sampling and organized evidence gathering tools that adjust various backgrounds into predetermined reply groups. They generate outcomes that are simple to make a summary, bear comparison, and generalize. In this research the media and technology, usage and attitudes (MTUAS) questionnaire (Rosen et al., 2013) was used to analyze students' attitude and usage toward media and technology.

The checklist and rating scales are often employed by questionnaires. The people's behaviors and attitudes are simplified and quantified by these devices. A list of features, behaviors, and other things the researcher is looking for is referred to as a checklist. A rating scale is more helpful when a behavior required to be assessed on a

continuous process. They are also known as Likert scales (P. Leedy & Ormrod, 2001).

The data collection tool had two sections. The first was to collect information about gender, age, academic class level, academic performance and faculty of participants. This information was used to evaluate the relation between these demographic variables with technology and social media usage and attitude.

The second section of tool was the media and technology, usage and attitudes scale which is developed by Rosen, Whaling, Carrier, Cheever, Rokkum (2013). The Cronbach α of this questionnaire was obtained in all subscales above 0.80, indicating high reliability. 16 options were included in this scale, which contained 4 subscales: there were 6 questions for positive viewpoints toward technology, 3 items for dependency for technology or, 3 options for negative viewpoints toward technology and 4 questions for task switching preference. 5-point Likert questionnaire for all questions was used, which range from Strongly agree (SA), Agree (A), Neither agree nor disagree (AD), Disagree (D), Strongly disagree (SD) responses.

Positive attitudes toward technology were evaluated by items including attitudes toward online information finding importance, the significance of capable of reaching to the Internet any time, the significance of maintain the momentum with technology considering that technology will offer answer to our difficulties. The dependency on technology was assessed by items becoming impatient without accessibility of a smartphone, becoming impatient without accessibility of the Internet, feeling addicted on technology. Negative attitudes toward technology was appraised by items including considering that technology is led to lose time,

considering that technology led to complex life and considering that technology led to more isolated life. In conclusion, preference for task switching was determined by items including the preference of doing several projects simultaneously, switching back when doing a number of assignments, break up to complete a task, by changing to other activities occasionally. 5-point Likert questionnaire for all options was used.

3.4 Sampling Techniques

Samples shape our erudition, our actions and our attitudes. In everyday life and in academic investigation this is equally true. The principal benefits of sampling are cost reduction, higher speed, wider opportunities and high precision (Iachan, 1982).

In current study, random sampling method was used to form the population of the research.

3.5 Validity and Reliability

The level of which quantification compute what it signifies to measure is expressed by validity. Various types have been outlined, such as face validity, construct validity, content validity and criterion validity. The validity assessments are divided into two categories, that is, internal and external validities. How accurately the measures achieved from the study was precisely measuring what it was designed to measure is evaluated by internal validity, while how accurately the measures result from the research sample described the population from which the research specimen was taken is assess by external validity (Carmines & Zeller, 1979).

The level to which the results achieved by a quantifying and research method can be replicated is assessed by reliability. Despite the fact that reliability has vital role in the validity of a questionnaire, it is however not a sufficient condition for the validity of a questionnaire (Chernik et al., 1990). The divergence between observers or tools

of quantification such as a questionnaire or unsteadiness of the characteristic being quantified arises from lack of reliability which will impact the validity of such questionnaire. Reliability has three dimensions, that is: equivalence, stability and internal consistency. It is important to comprehend the differentiation among these three aspects as it will guide the researcher on the proper evaluation of reliability of a research instrument including questionnaire (Clark et al., 2010).

The reliability of 16-item of questionnaire was determined by Cronbach's α which was above 0.7. For each dimension of our questionnaire Cronbach's α was calculated by SPSS software. The corrected item-to-total correlations were calculated.

Cronbach's alpha is a measure of internal cohesion, that is, how closely related a set of items are as a group. The formula for the standardized Cronbach's alpha is:

$$\alpha = \frac{N \cdot c}{v(N - 1)c}$$

Here N is equal to the number of items, c is the average inter-item covariance among the items and v equals the average variance (Nunnally, 1978).

3.6 Data Analysis

All data were dissolved with descriptive analyses techniques. Frequency (f), percentage, T-test and ANOVA were used for analyzing data. SPSS software version 22 was used to analyze the data.

For the current study, mean, standard deviation, frequency, and analysis of variance are calculated. $P < 0.05$ will consider as significant level.

Chapter 4

RESULTS

4.1 The Level of Media and Technology Usage and Attitudes of EMU Students

The results showed that EMU students had a score of 21.83 in terms of the positive attitudes toward technology, which indicated that students had a positive attitude toward the use of technology. However, the mean score in the subscales of concern toward away from technology or addiction on technology was 9.98, which suggests neither agree nor disagree in this sub-scale. Therefore, students at the EMU generally have moderate anxiety when they do not have access to technology.

Also, according to the negative attitudes toward technology subscale, the results of the current research showed that the mean score of this sub-scale was 9.98, which indicates that students do not have a negative attitude toward the application of technology. However, the score of the desire for assignment changing subscale was 12.44, suggesting the students' desire for assignment changing and simultaneous work on multiple projects. The results of this section are presented in table 4.1.

Table 4.1. Results related to the level of media and technology usage and attitudes of EMU university students in terms of the studied subscales

Subscales	N	Minimum	Maximum	Std. Deviation
Positive Attitudes toward Technology	432	6.00	30.00	5.32908
Dependence on Technology	430	3.00	15.00	2.82507
Negative Attitudes toward Technology	432	3.00	15.00	2.70169
Preference for Task Switching	430	5.00	18.00	2.53565
Valid N (listwise)	418			

4.2 Inferential Statistics

Independent T-test was used to examine the relation between university student's media and technology usage and attitudes and gender of students. The means of the subscales are given in Table 4.2.

Table 4.2. The mean of the studied subscales by gender of the participants in the present study

subscales	gender	N	Mean	Std. Deviation
Positive Attitudes toward Technology	male	260	21.9615	5.27602
	female	172	21.6395	5.41800
Anxiety about Being without Technology	male	260	9.9231	2.77500
	female	170	10.0706	2.90598
Negative Attitudes toward Technology	male	262	10.1527	2.66803
	female	170	9.7294	2.74083
Task Switching	male	260	12.7769	2.56277
	female	170	11.9412	2.41471

The results of this test showed that there is no significant relationship between the positive attitudes towards technology ($P=0.542$), concern about being away from technologies ($P=0.601$) and negative attitudes toward technology ($P=0.114$) subscales and gender of participants in this research. However, there was a significant relationship between the desire for assignment changing. The mean analysis showed that men (12.77 ± 0.15) had a significant and greater tendency for task switching compared to women (11.94 ± 0.18) ($P=0.001$) (table 4.3).

Table 4.3. Independent T-test results to examine the relationship between the means of the subscales studied and the gender of the participants in the study

Subscales		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Pos.At	Equal variances assumed	1.381	.241	.614	430	.539	.32200
	Equal variances not assumed			.611	359.446	.542	.32200
Anxi	Equal variances assumed	.091	.763	-.529	428	.597	-.14751
	Equal variances not assumed			-.524	349.528	.601	-.14751
Neg.At	Equal variances assumed	.709	.400	1.594	430	.112	.42326
	Equal variances not assumed			1.584	354.042	.114	.42326
Swi	Equal variances assumed	.399	.528	3.382	428	.001	.83575
	Equal variances not assumed			3.425	376.386	.001	.83575

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

Univariate ANOVA test was used to study the relationship between university student's media and technology usage and attitudes and age of the university students. The descriptive results of this section are presented in table 4.4, based on the subscales.

Table 4.4. The descriptive results of university student's social media and technology usage and attitudes and age

	age	N	Mean	Std. Deviation	Std. Error
Pos.At	18-20	80	20.8500	5.06939	.56678
	21-25	312	21.8782	5.56441	.31502
	26-30	26	23.6923	3.13393	.61461
	≥31	14	23.0000	3.37411	.90177
	Total	432	21.8333	5.32908	.25640
Anxi	18-20	84	10.2619	2.68920	.29342
	21-25	308	9.8831	2.86265	.16311
	26-30	26	9.9231	2.54438	.49899
	≥31	12	10.6667	3.44656	.99494
	Total	430	9.9814	2.82507	.13624
Neg.At	18-20	82	9.9756	2.91855	.32230
	21-25	312	10.0577	2.66751	.15102
	26-30	26	9.7692	2.65793	.52126
	≥31	12	8.6667	1.96946	.56854
	Total	432	9.9861	2.70169	.12998
Swi	18-20	82	13.4146	2.73049	.30153
	21-25	310	12.2452	2.51427	.14280
	26-30	24	12.1667	1.55106	.31661
	≥31	14	11.7143	1.89852	.50740
	Total	430	12.4465	2.53565	.12228

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

The results of one-way ANOVA showed that there is a significant relationship between university student's media and technology usage and attitudes and the age of the university students in the preference for task switching subscale ($P=0.001$). However, in other subscales, including positive viewpoints about technologies ($P=0.086$), concern about being away from technologies or dependence on technology ($P=0.591$) and negative attitudes toward technology ($P=0.356$), no significant relationship with age was found (table 4.5).

Table 4.5. The results of one-way ANOVA to examine relationship between university student's social media and technology usage and attitudes and the age of the university students

		Sum of Squares	df	Mean Square	F	Sig.
Pos.At	Between Groups	186.890	3	62.297	2.212	
	Within Groups	12053.110	428	28.161		.086
	Total	12240.000	431			
Anxi	Between Groups	15.308	3	5.103	.638	
	Within Groups	3408.543	426	8.001		.591
	Total	3423.851	429			
Neg.At	Between Groups	23.722	3	7.907	1.084	
	Within Groups	3122.195	428	7.295		.356
	Total	3145.917	431			
Swi	Between Groups	98.809	3	32.936	5.276	
	Within Groups	2659.461	426	6.243		.001
	Total	2758.270	429			

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

The results of post hoc test of this variable showed that there is a significant difference in the positive attitudes toward technology between 18-20 and 26-30 age groups ($P=0.018$). In the 26-30 age group, there was a more positive view of the use of media and technology among EMU students.

There was a significant difference between the preference for task switching subscales with 18-20 age group when compared with other age groups. This difference increased with age. As the age rises, the desire for task switching and doing several simultaneous projects decreased. These results indicate that the desire to do multiple projects is reduced with increasing age. The high tendency for task switching was observed in the 18-21 year age group, and the least in the age group of ≥ 31 . However, there were no significant differences between 26-30, 21-25 and ≥ 31 years age groups. So, among EMU students, those aged 18 to 20 years were keen to have several simultaneous projects and task switching (table 4.6).

Table 4.6. The results of post hoc test of the relationship between university student's social media and technology usage and attitudes and age of the university students

Variables	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
Pos.At	18-20	21-25	-1.02821	.66504	.123
		26-30	-2.84231*	1.19798	.018
		>31	-2.15000	1.53738	.163
	21-25	18-20	1.02821	.66504	.123
		26-30	-1.81410	1.08323	.095
		>31	-1.12179	1.44976	.439
	26-30	18-20	2.84231*	1.19798	.018
		21-25	1.81410	1.08323	.095
		>31	.69231	1.75917	.694
	>31	18-20	2.15000	1.53738	.163
		21-25	1.12179	1.44976	.439
		26-30	-.69231	1.75917	.694
Anxi	18-20	21-25	.37879	.34818	.277
		26-30	.33883	.63482	.594
		>31	-.40476	.87294	.643
	21-25	18-20	-.37879	.34818	.277
		26-30	-.03996	.57768	.945
		>31	-.78355	.83232	.347
	26-30	18-20	-.33883	.63482	.594
		21-25	.03996	.57768	.945
		>31	-.74359	.98717	.452
	>31	18-20	.40476	.87294	.643
		21-25	.78355	.83232	.347
		26-30	.74359	.98717	.452
Neg.At	18-20	21-25	-.08208	.33518	.807
		26-30	.20638	.60789	.734
		>31	1.30894	.83478	.118
	21-25	18-20	.08208	.33518	.807
		26-30	.28846	.55132	.601
		>31	1.39103	.79453	.081
	26-30	18-20	-.20638	.60789	.734
		21-25	-.28846	.55132	.601
		>31	1.10256	.94259	.243
	>31	18-20	-1.30894	.83478	.118
		21-25	-1.39103	.79453	.081
		26-30	-1.10256	.94259	.243
Swi	18-20	21-25	1.16947*	.31028	.000
		26-30	1.24797*	.57987	.032
		>31	1.70035*	.72253	.019
	21-25	18-20	-1.16947*	.31028	.000
		26-30	.07849	.52939	.882
		>31	.53088	.68268	.437
	26-30	18-20	-1.24797*	.57987	.032
		21-25	-.07849	.52939	.882
		>31	.45238	.84026	.591
	>31	18-20	-1.70035*	.72253	.019
		21-25	-.53088	.68268	.437
		26-30	-.45238	.84026	.591

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

One-way ANOVA was used to study the relation between university student's media and technology usage and attitudes and grade of university students. The descriptive results are presented in table 4.7 in terms of subscales.

Table 4.7. The descriptive results of student's social media and technology usage and attitudes and grade

	Grade	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Pos.At	1Years	88	21.6364	4.78066	.50962	8.00	29.00
	2Years	80	21.6750	4.23002	.47293	11.00	30.00
	3Years	128	21.0938	5.88263	.51996	8.00	30.00
	4Years	136	22.7500	5.61315	.48132	6.00	30.00
	Total	432	21.8333	5.32908	.25640	6.00	30.00
Anxi	1Years	86	10.5116	2.54255	.27417	5.00	15.00
	2Years	84	10.6429	2.20428	.24051	6.00	15.00
	3Years	126	8.8730	2.81420	.25071	3.00	14.00
	4Years	134	10.2687	3.07100	.26529	3.00	15.00
	Total	430	9.9814	2.82507	.13624	3.00	15.00
Neg.At	1Years	88	10.0227	2.72484	.29047	3.00	15.00
	2Years	82	10.9756	2.52873	.27925	6.00	15.00
	3Years	126	9.9206	2.55688	.22779	4.00	15.00
	4Years	136	9.4265	2.77724	.23815	3.00	15.00
	Total	432	9.9861	2.70169	.12998	3.00	15.00
Swi	1Years	84	12.9524	2.82802	.30856	6.00	18.00
	2Years	84	12.5476	2.29407	.25030	8.00	18.00
	3Years	126	12.3810	2.53884	.22618	5.00	17.00
	4Years	136	12.1324	2.45797	.21077	7.00	17.00
	Total	430	12.4465	2.53565	.12228	5.00	18.00

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

One-way analysis of variance showed that there was a significant difference with respect to the concern about being away from technologies or dependency on technology ($P=0.001$) and the negative attitudes toward technology ($P = 0.001$) subscales and grade of EMU students. However, there was no statistically significant difference between the positive viewpoints about technologies and desire for assignment changing subscales and grade of EMU students ($P=0.082$ and $P=0.130$, respectively) (table 4.8).

Table 4.8. ANOVA results of the relation between studied subscales and grade of EMU Students

		Sum of Squares	df	Mean Square	F	Sig.
Pos.At	Between Groups	189.711	3	63.237		
	Within Groups	12050.289	428	28.155	2.246	.082
	Total	12240.000	431			
Anxi	Between Groups	226.780	3	75.593		
	Within Groups	3197.071	426	7.505	10.073	.000
	Total	3423.851	429			
Neg.At	Between Groups	123.540	3	41.180		
	Within Groups	3022.377	428	7.062	5.832	.001
	Total	3145.917	431			
Swi	Between Groups	36.319	3	12.106		
	Within Groups	2721.951	426	6.390	1.895	.130
	Total	2758.270	429			

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

The results showed that the third-year EMU students reported the highest level of concern about being away from technology or addiction on technologies, compared to other students. This value was statistically significant in comparison with other groups ($P=0.001$). However, there was no statistically significant difference between the other, first, second and fourth year students in this subscale. Hence, there is a significant relationship between EMU University degree and dependence on technology, which was most clearly in the third year university students.

In terms of negative attitudes towards technology subscale, the results showed that the highest percentage of negative attitudes towards technology was observed in second-year students, with a significant difference between the two groups. After that, students were in the first, third and fourth year. However, in this subscale, there was no significant difference between the first, third and fourth year students. And second year students seem to have the highest negative attitudes toward technology, compared to other students. The results of the post hoc test are presented in table 4.9.

Table 4.9. The results of the post hoc test of studied subscales and grade of EMU students

Dependent Variable	(I) Grade	(J) Grade	Mean	Std. Error	Sig.	
			Difference (I-J)			
Pos.At	1Years	2Years	-.03864	.81968	.962	
		3Years	.54261	.73478	.461	
		4Years	-1.11364	.72592	.126	
	2Years	1Years	.03864	.81968	.962	
		3Years	.58125	.75624	.443	
		4Years	-1.07500	.74763	.151	
	3Years	1Years	-.54261	.73478	.461	
		2Years	-.58125	.75624	.443	
		4Years	-1.65625*	.65344	.012	
	4Years	1Years	1.11364	.72592	.126	
		2Years	1.07500	.74763	.151	
		3Years	1.65625*	.65344	.012	
Anxi	1Years	2Years	-.13123	.42025	.755	
		3Years	1.63861*	.38318	.000	
		4Years	.24297	.37851	.521	
	2Years	1Years	.13123	.42025	.755	
		3Years	1.76984*	.38588	.000	
		4Years	.37420	.38125	.327	
	3Years	1Years	-1.63861*	.38318	.000	
		2Years	-1.76984*	.38588	.000	
		4Years	-1.39564*	.33995	.000	
	4Years	1Years	-.24297	.37851	.521	
		2Years	-.37420	.38125	.327	
		3Years	1.39564*	.33995	.000	
Neg.At	1Years	2Years	-.95288*	.40788	.020	
		3Years	.10209	.36918	.782	
		4Years	.59626	.36355	.102	
	2Years	1Years	.95288*	.40788	.020	
		3Years	1.05497*	.37704	.005	
		4Years	1.54914*	.37154	.000	
	3Years	1Years	-.10209	.36918	.782	
		2Years	-1.05497*	.37704	.005	
		4Years	.49416	.32859	.133	
	4Years	1Years	-.59626	.36355	.102	
		1Years	2Years	-1.54914*	.37154	.000
		3Years	-.49416	.32859	.133	
Swi	2Years	3Years	.40476	.39004	.300	
		3Years	.57143	.35606	.109	
		4Years	.82003*	.35078	.020	
	2Years	1Years	-.40476	.39004	.300	
		3Years	.16667	.35606	.640	
		4Years	.41527	.35078	.237	
	3Years	1Years	-.57143	.35606	.109	
		2Years	-.16667	.35606	.640	
		4Years	.24860	.31256	.427	
	4Years	1Years	-.82003*	.35078	.020	
		2Years	-.41527	.35078	.237	
		3Years	-.24860	.31256	.427	

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

One-way analysis of variance was used to study the relationship between university student's social media and technology usage and attitudes and faculty. The descriptive results are given in table 4.10 in terms of subscales.

Table 4.10. The descriptive results of university student's social media and technology usage and attitudes and faculty

	Faculty	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Pos.At	Education	26	23.9231	4.90651	.96225	15.00	30.00
	Pharmacy	66	23.5455	4.26860	.52543	13.00	30.00
	engineering	84	21.9286	5.81810	.63481	6.00	30.00
	Art and Science	46	23.3913	4.23466	.62437	12.00	30.00
	Busineses and economics	40	22.5000	4.03192	.63750	13.00	27.00
	Architecture	26	18.7692	6.69512	1.31302	8.00	29.00
	Engineering	20	20.5000	5.05236	1.12974	13.00	27.00
	Law	20	20.5000	5.05236	1.12974	13.00	27.00
	communication and media	34	22.2353	4.39737	.75414	9.00	27.00
	Health science medicine	28	15.9286	7.55684	1.42811	6.00	27.00
	30	19.5333	3.23487	.59060	16.00	25.00	
	Tourism	12	24.3333	2.14617	.61955	22.00	27.00
Dentistry	20	23.0000	2.33959	.52315	20.00	26.00	
Total	432	21.8333	5.32908	.25640	6.00	30.00	
Anxi	Education	24	11.6667	2.29682	.46884	9.00	15.00
	Pharmacy	64	10.6875	2.81084	.35135	6.00	15.00
	engineering	82	9.5610	2.68557	.29657	3.00	14.00
	Art and Science	46	10.5217	3.08213	.45444	5.00	15.00
	Busineses and economics	40	9.8500	3.15863	.49942	5.00	15.00
	Architecture	26	9.6923	2.57324	.50465	6.00	14.00
	Engineering	26	9.6923	2.57324	.50465	6.00	14.00
	Law	24	11.0000	1.61515	.32969	9.00	13.00
	Health science medicine	28	8.2143	3.63478	.68691	3.00	14.00
	30	10.0667	2.36254	.43134	6.00	14.00	
	Tourism	12	10.6667	.49237	.14213	10.00	11.00
	Dentistry	20	9.0000	2.05196	.45883	5.00	10.00
Total	430	9.9814	2.82507	.13624	3.00	15.00	
Neg.At	Education	26	10.4615	2.42043	.47468	6.00	14.00
	Pharmacy	66	10.2121	2.11598	.26046	6.00	15.00
	engineering	82	9.5854	2.66644	.29446	3.00	15.00
	Art and Science	46	10.0435	2.59021	.38191	6.00	14.00
	Busineses and economics	40	9.5500	2.80064	.44282	5.00	15.00
	Architecture	24	12.2500	1.39096	.28393	9.00	14.00
	Engineering	24	12.2500	1.39096	.28393	9.00	14.00
	Law	24	9.6667	3.31881	.67745	3.00	14.00
	communication and media	34	8.5294	2.87344	.49279	4.00	13.00
	Health science medicine	28	8.7857	2.61558	.49430	3.00	12.00
	30	11.7333	2.76597	.50499	4.00	14.00	
	Tourism	12	11.0000	1.70561	.49237	9.00	13.00
Dentistry	20	9.6000	2.72223	.60871	6.00	14.00	

	Total	432	9.9861	2.70169	.12998	3.00	15.00
Swi	Education	26	12.1538	2.14834	.42133	8.00	16.00
	Pharmacy	66	12.7879	2.45272	.30191	8.00	17.00
	Art and Science	44	12.4545	2.39626	.36125	8.00	18.00
	Businees and economics	40	12.6000	2.36209	.37348	8.00	17.00
	Architecture	26	11.7692	2.04563	.40118	9.00	15.00
	Engineering	24	13.3333	2.47890	.50600	9.00	17.00
	Law	34	11.8235	3.25176	.55767	6.00	17.00
	communication and media	28	11.5000	3.00000	.56695	5.00	17.00
	Health science	30	12.0000	2.34888	.42885	8.00	16.00
	medicine	12	13.6667	1.77525	.51247	12.00	16.00
	Tourism	20	14.0000	1.71679	.38389	12.00	17.00
	Dentistry	430	12.4465	2.53565	.12228	5.00	18.00
	Total						

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

One-way analysis of variance showed that there were significant differences between the faculty and the studied subscales. The results of variance analysis are presented in table 4.11.

Table 4.11. ANOVA results of the relation between studied subscales and faculty of EMU Students

		Sum of Squares	df	Mean Square	F	Sig.
Pos.At	Between Groups	1959.539	11	178.140		
	Within Groups	10280.461	420	24.477	7.278	.000
	Total	12240.000	431			
Anxi	Between Groups	293.679	11	26.698		
	Within Groups	3130.172	418	7.488	3.565	.000
	Total	3423.851	429			
Neg.At	Between Groups	375.024	11	34.093		
	Within Groups	2770.892	420	6.597	5.168	.000
	Total	3145.917	431			
Swi	Between Groups	153.239	11	13.931		
	Within Groups	2605.031	418	6.232	2.235	.012
	Total	2758.270	429			

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

The results indicated that students of the faculty of tourism (24.33 ± 0.52), education (23.92 ± 0.96), pharmacy (23.39 ± 0.62) had the highest positive attitude toward

technology usage. However, the lowest average positive attitudes toward technology subscale was reported among students of health sciences faculty (15.92 ± 1.42).

The results showed that students at the education faculty reported the highest mean of concern about being away from technologies or addiction on technology (11.66 ± 0.43), which indicates the high level of dependence on technology among education faculty's students. Also, students at the faculty of law (11.00 ± 1.61), pharmacy (10.68 ± 0.35), arts and sciences (10.52 ± 0.45) and tourism (10.66 ± 0.14) reported a high level of concern about being away from technologies or addiction on technology. The lowest mean for this subscale was for students at health science (8.21 ± 0.68) and dentistry (9 ± 0.45) faculties.

The results indicated that students at the engineering faculty have the highest rates of negative attitudes toward technology (12.25 ± 0.28). However, the lowest level of negative attitudes toward technology was observed among students at the faculty of communication and media (8.52 ± 0.49).

The results showed that students of dentistry (14.00 ± 0.12), tourism (13.66 ± 0.51) and law (13.33 ± 0.50) faculties had the most tendency for task switching and simultaneous implementation of several projects. The lowest was observed among students at the faculty of Health Sciences (11.50 ± 0.56).

The results of the post hoc test based on the LSD of the relation between university student's media and technology usage and attitudes and faculty are presented in the table 4.12.

4.3 Discussion

Students positive attitudes towards technology and social media will encourage adoption of technology and social media as educational tools in learning context. So, in the current research study, social media and technologies utilization and viewpoints of EMU students were explored. Information technologies through an instructional process must be provided to the student, thus, educational use of technologies and social media must be prevalent and students require being learning about productive technology in educational context. In these regards, students attitudes towards technology and social media is vital in assessing reflections of adopting technology and social media in education.

In the current study, the scale that developed by (Rosen et al., 2013), was used. Based on the results of current study, the social media and technology usage and attitudes questionnaire has been confirmed to well-founded and trustworthy instrument.

Generally, EMU students have positive attitudes toward technology, relative high dependency and anxiety about being without technology and moderate tendency to task switching and working, simultaneously on different projects. These results are in line with other studies (Liaw, 2002). It has been said that students showing positive attitudes towards courses in which modern technological tools are extensively used (Köse, Gencer, & Gezer, 2007). Also, in study conducted by Aktas, Alioglu and Vardar (2007) similar findings were reported and showed that students used technologies such as computer and smartphone for listening music, chatting and

playing game rather than using it as educational tools for studying and doing homework (Aktas, Alioğlu, & Vardar, 2007).

In the current study, it has been shown that gender is not statistically significant on attitudes, both negatively and positively, toward technology and social media usage. But it has been shown that the gender influences the desire for assignment changing over task completion, confirming the positive impact of gender over preference for task switching (Marcoulides, Marcoulides, Cavus, & Gunbatar, 2009). This finding is contrary to the findings of research by Kose et al. (2007), which reported male students had more positive attitudes toward computers and the Internet than female students. But, in this research, it has been reported that newly registers to EMU had positive attitudes towards computer and internet usage.

To underline the effect of age on the subscales studied here, the participants were divided in four groups: 18-20, 21-25, 26-30 and ≥ 31 . Our results showed that only in the preference for task switching subscale there was a significant difference among students' age. Younger students have more preference for task switching compared with older ones. This finding is in line with other research that shows young people have more ability and flexibility than older ones to task switching (Wasylyshyn, Verhaeghen, & Sliwinski, 2011). This is due to a decrease in cognitive control with increase age (Craik & Salthouse, 2011).

The results of current study showed that there are significant differences between grade of students and concern about being away from technologies or addiction on technology and negative viewpoints about technologies subscales. Based on the achieved results, the third year EMU students had the lowest anxiety about being

without technology or dependence on technology and fourth year students had the lowest negative attitudes toward technology. This may be due to the large application of technology and social media by the third and fourth year students in their academic activities, which has reduced their anxiety and reduced their negative attitude toward technology and the social media.

In examination the relation between university student's social media and technology usage attitudes and discipline (faculty) of the university students it has been shown that in all four studied subscales, including positive viewpoints about technologies, concern about being away from technologies or addiction to technologies, negative viewpoints toward technologies and desire for task changing, there were statically significant differences. The highest positive attitudes toward technology was reported by education and tourism students and the lowest by health science students. The highest concern about being away from technologies or addiction on technology was seen among education and law faculties' students and the lowest observed among health science students. This may be due to low technology and social media usage among health science faculty students. Also, students of education faculty have used more technology and this could lead to more anxiety among these students.

The highest negative attitudes toward technology was reported by architecture engineering students and the lowest by communication and media faculty students. Meanwhile, the tourism and dentistry faculties' students tend to do more for task switching. These differences can be attributing to the different usage of technology and social media among various faculties.

Chapter 5

CONCLUSION

The results showed that EMU students had a positive attitude toward the use of technology and generally have moderate anxiety when they do not have access to technology. The results of the current research showed that students do not have a negative viewpoints about technologies. However, students have preference for task switching and simultaneous work on multiple projects.

The results of this test showed that there was a significant relationship between the preference for task switching and men had a significant and greater tendency for task switching compared to women. Also, there was a significant relationship between university student's social media and technology usage and attitudes and the age of the university students in the preference for task switching subscale. There was a significant difference between the preference for task switching subscales with 18-20 age group when compared with other age groups. So, among EMU students, those aged 18 to 20 years were keen to have several simultaneous projects and task switching.

A significant difference with respect to the anxiety about being without technology or dependence on technology and the negative attitudes toward technology subscales and grade of EMU students was seen. The third-year EMU students reported the highest level of concern about being away from technologies or addiction on

technology, compared to other students. The highest percentage of negative attitudes towards technology was observed in second-year students. There were significant differences between the faculty and the studied subscales.

Student positive attitude toward technology and social media will encourage adoption of technology and media as educational tools in learning context. So, in our study, social media and technology usage and attitudes of EMU students were explored. Informational technologies through an instructional process must be provided to the student, thus, educational use of technologies and social media must be prevalent and students require being learning about productive technology in educational context. In this regard, students attitudes towards technology and media is vital in assessing reflections of adopting technology and media in education.

Based on the results achieved in this study, it can be said that there is a possibility to use the technology and the social media in EMU students' education. Using these tools, we can expect to improve student performance in research and academic affairs.

REFERENCES

- Aktas, E., Aliođlu, O., & Vardar, E. (2007). Biliřim teknolojileri kullanımının ođrencilerin ođrenimleri üzerine etkileri ve biliřim harcama esnekliđi: OMÜ Biga İİBF örneđi.
- Al-Bahrani, A., & Patel, D. (2015). Incorporating Twitter, Instagram, and Facebook in Economics Classrooms. *The Journal of Economic Education*, 46(1), 56-67. doi:10.1080/00220485.2014.978922
- Alavi, S. S., Jannatifard, F., Maracy, M. R., Alaghemandan, H., & Setare, M. (2014). Comparison of national and personal identity between person with internet addiction disorder and normal internet users. *Journal of education and health promotion*, 3, 42-42. doi:10.4103/2277-9531.131926
- Allport, G. W. (1935). Attitudes in CA Murchinson (Ed.) Handbook of social psychology. *Clark University Press, Worcester, MA*, 798, 844.
- Alothman, M., Robertson, J., & Michaelson, G. (2017). Computer usage and attitudes among Saudi Arabian undergraduate students. *Computers & Education*, 110, 127-142. doi:<https://doi.org/10.1016/j.compedu.2017.02.010>
- Bicen, H. (2014). Student opinions regarding Twitter usage with mobile applications for educational purposes. *Procedia-Social and Behavioral Sciences*, 136, 385-390.

- Bik, H. M., & Goldstein, M. C. (2013). An introduction to social media for scientists. *PLoS biology*, *11*(4), e1001535.
- Bingham, T., & Conner, M. (2010). *The new social learning: A guide to transforming organizations through social media*: Berrett-Koehler Publishers.
- Buckingham, D. (2013). Is there a digital generation? *Digital generations* (pp. 13-26): Routledge.
- Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment* (Vol. 17): Sage publications.
- Chen, B., & Bryer, T. (2012). Investigating instructional strategies for using social media in formal and informal learning. *The International Review of Research in Open and Distributed Learning*, *13*(1), 87-104.
- Chernik, D. A., Gillings, D., Laine, H., Hendler, J., Silver, J. M., Davidson, A. B., . . . Siegel, J. L. (1990). Validity and reliability of the Observer's Assessment of Alertness/Sedation Scale: study with intravenous midazolam. *Journal of clinical psychopharmacology*.
- Cheston, C. C., Flickinger, T. E., & Chisolm, M. S. (2013). Social media use in medical education: a systematic review. *Academic Medicine*, *88*(6), 893-901.
- Chou, A. Y., & Lim, B. B. (2010). A framework for measuring happiness in online social networks. *Issues in Information Systems*, *11*(1), 198-203.

- Clark, R. A., Bryant, A. L., Pua, Y., McCrory, P., Bennell, K., & Hunt, M. (2010). Validity and reliability of the Nintendo Wii Balance Board for assessment of standing balance. *Gait & posture, 31*(3), 307-310.
- Conole, G., & Alevizou, P. (2010). A literature review of the use of Web 2.0 tools in Higher Education. *A report commissioned by the Higher Education Academy*.
- Craik, F. I., & Salthouse, T. A. (2011). *The handbook of aging and cognition*: Psychology press.
- Dabbagh, N., & Kitsantas, A. (2012). Personal Learning Environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and Higher Education, 15*(1), 3-8.
- Dahlstrom, E. (2011). *ECAR National Study of Undergraduate Students and Information Technology, 2012*: EDUCAUSE Center for Applied Research.
- Dvorkin Camiel, L., Goldman-Levine, J. D., Kostka-Rokosz, M. D., & McCloskey, W. W. (2014). Twitter as a medium for pharmacy students' personal learning network development. *Currents in Pharmacy Teaching and Learning, 6*(4), 463-470. doi:<https://doi.org/10.1016/j.cptl.2014.04.008>
- Dwamena, Q. J. Y., Kwabla, F. J., & Kanyir, K. C. (2016). Students' Engagement in Social Media and Its Mainstay for Teaching and Learning. The Case of the Wa Nursing Training College. *American Journal of Educational Research, 4*(13), 961-969. doi:10.12691/education-4-13-8

- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*: Harcourt Brace Jovanovich College Publishers.
- Edison, S. W., & Geissler, G. L. (2003). Measuring attitudes towards general technology: Antecedents, hypotheses and scale development. *Journal of Targeting, Measurement and Analysis for Marketing*, 12(2), 137-156. doi:10.1057/palgrave.jt.5740104
- Eltantawy, N., & Wiest, J. B. (2011). The Arab spring| Social media in the Egyptian revolution: reconsidering resource mobilization theory. *International journal of communication*, 5, 18.
- FarukSozcu, O., ErkanTaskın, Ipek, I., Simsek, M., & Kınay, H. (2015). Investigating Turkey High School Graduates' Attitudes towards Technology. *Procedia - Social and Behavioral Sciences*, 191, 1416-1422. doi:<https://doi.org/10.1016/j.sbspro.2015.04.397>
- Forkosh-Baruch, A., & Hershkovitz, A. (2012). A case study of Israeli higher-education institutes sharing scholarly information with the community via social networks. *The Internet and Higher Education*, 15(1), 58-68. doi:<https://doi.org/10.1016/j.iheduc.2011.08.003>
- Gascó, J. L., Llopis Taverner, J., & González-Ramírez, R. (2015). Facebook in teaching: strengths and weaknesses. *International Journal of Information and Learning Technology*, 32(1), 65-78. doi:10.1108/IJILT-09-2014-0021

- Göksu, İ., & Atici, B. (2013). Need for Mobile Learning: Technologies and Opportunities. *Procedia - Social and Behavioral Sciences*, 103, 685-694.
doi:<https://doi.org/10.1016/j.sbspro.2013.10.388>
- Gonzalez, R., Gasco, J., & Llopis, J. (2016). *Facebook and Academic Performance: A Positive Outcome* (Vol. 23).
- Gray, R., Vitak, J., Easton, E. W., & Ellison, N. B. (2013). Examining social adjustment to college in the age of social media: Factors influencing successful transitions and persistence. *Computers & Education*, 67, 193-207.
doi:<https://doi.org/10.1016/j.compedu.2013.02.021>
- Hackett, G. (1981). Survey research methods. *The Personnel and Guidance Journal*, 59(9), 599-604.
- Hew, K. F. (2011). Students' and teachers' use of Facebook. *Computers in Human Behavior*, 27(2), 662-676.
- Hrastinski, S., & Dennen, V. (2012). Social media in higher education: Introduction to the special issue. *The Internet and Higher Education*, 1(15), 1-2.
- Hussain, I. (2012). A Study to Evaluate the Social Media Trends among University Students. *Procedia - Social and Behavioral Sciences*, 64, 639-645.
doi:<https://doi.org/10.1016/j.sbspro.2012.11.075>

- Iachan, R. (1982). Systematic sampling: A critical review. *International Statistical Review/Revue Internationale de Statistique*, 293-303.
- Junco, R. (2015). Student class standing, Facebook use, and academic performance. *Journal of Applied Developmental Psychology*, 36, 18-29. doi:<https://doi.org/10.1016/j.appdev.2014.11.001>
- Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning*, 27(2), 119-132. doi:10.1111/j.1365-2729.2010.00387.x
- Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of higher education? *The Internet and Higher Education*, 13(4), 179-187. doi:<https://doi.org/10.1016/j.iheduc.2010.07.003>
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59-68. doi:<https://doi.org/10.1016/j.bushor.2009.09.003>
- Kapoor, K. K., Tamilmani, K., Rana, N. P., Patil, P., Dwivedi, Y. K., & Nerur, S. (2018). Advances in Social Media Research: Past, Present and Future. *Information Systems Frontiers*, 20(3), 531-558. doi:10.1007/s10796-017-9810-y

KATZ, D. (1960). THE FUNCTIONAL APPROACH TO THE STUDY OF ATTITUDES. *Public Opinion Quarterly*, 24(2), 163-204.
doi:10.1086/266945

Kirschner, P. A., & Karpinski, A. C. (2010). Facebook® and academic performance. *Computers in Human Behavior*, 26(6), 1237-1245.

Kitson, L., Fletcher, M., & Kearney, J. (2007). Continuity and change in literacy practices: A move towards multiliteracies. *The Journal of Classroom Interaction*, 29-41.

Köse, S., Gencer, A. S., & Gezer, K. (2007). Meslek Yüksekokulu Öğrencilerinin Bilgisayar ve. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 21(21), 44-54.

Kozma, R. B. (2008). Comparative Analysis of Policies for ICT in Education. In J. Voogt & G. Knezek (Eds.), *International Handbook of Information Technology in Primary and Secondary Education* (pp. 1083-1096). Boston, MA: Springer US.

Kumar, N. (2012). User perception and use of social networking sites by Sikkim University students.

Kumar, S., & Vigil, K. (2011). The Net Generation as Preservice Teachers. *Journal of Digital Learning in Teacher Education*, 27(4), 144-153.
doi:10.1080/21532974.2011.10784671

- LaRue, E. M. (2012). Using Facebook as course management software: a case study. *Teaching and Learning in Nursing*, 7(1), 17-22. doi:<https://doi.org/10.1016/j.teln.2011.07.004>
- Lau, W. W. F., Lui, V., & Chu, S. K. W. (2017). The use of wikis in a science inquiry-based project in a primary school. *Educational Technology Research and Development*, 65(3), 533-553. doi:10.1007/s11423-016-9479-9
- Lee, J., & Lee, H. (2010). *The Computer-Mediated Communication Network: Exploring the Linkage Between the Online Community and Social Capital* (Vol. 12).
- Leedy, P., & Ormrod, J. (2001). *Practical Research Design: Planning and Design* 3rd ed. A South African Perspective: Van Schaik Publishers.
- Leedy, P. D., & Ormrod, J. E. (2014). *Practical research: Planning and design*: Pearson Education.
- Liaw, S.-S. (2002). An Internet survey for perceptions of computers and the World Wide Web: relationship, prediction, and difference. *Computers in Human Behavior*, 18(1), 17-35.
- M. Ross, S., Morrison, G., & Lowther, D. (2010). *Educational technology research past and present: Balancing rigor and relevance to impact school learning* (Vol. 1).

- Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more for socialising and talking to friends about work than for actually doing work'. *Learning, Media and Technology*, 34(2), 141-155. doi:10.1080/17439880902923606
- Madhusudhan, M. (2012). Use of social networking sites by research scholars of the University of Delhi: A study. *The International Information & Library Review*, 44(2), 100-113. doi:<https://doi.org/10.1016/j.iilr.2012.04.006>
- Marcoulides, G. A., Marcoulides, L. D., Cavus, H., & Gunbatar, M. S. (2009). Predictors of computer anxiety: a factor mixture model analysis. *Psychological reports*, 105(3), 687-696.
- Moran, M., Seaman, J., & Tinti-Kane, H. (2011). Teaching, Learning, and Sharing: How Today's Higher Education Faculty Use Social Media. *Babson Survey Research Group*.
- Novak, E., Razzouk, R., & Johnson, T. E. (2012). The educational use of social annotation tools in higher education: A literature review. *The Internet and Higher Education*, 15(1), 39-49. doi:<https://doi.org/10.1016/j.iheduc.2011.09.002>
- Özgür, H. (2016). Adapting the Media and Technology Usage and Attitudes Scale to Turkish. *Educational Sciences: Theory and Practice*, 16(5), 1711-1735.

- Paul, J. A., Baker, H. M., & Cochran, J. D. (2012). Effect of online social networking on student academic performance. *Computers in Human Behavior*, 28(6), 2117-2127. doi:<https://doi.org/10.1016/j.chb.2012.06.016>
- Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30(3), 227-238. doi:<https://doi.org/10.1016/j.appdev.2008.12.010>
- Prensky, M. (2001). Digital Natives, Digital Immigrants Part 1. *On the Horizon*, 9(5), 1-6. doi:10.1108/10748120110424816
- Qian, M., & Clark, K. R. (2016). Game-based Learning and 21st century skills: A review of recent research. *Computers in Human Behavior*, 63, 50-58. doi:<https://doi.org/10.1016/j.chb.2016.05.023>
- Rosen, L. D., Whaling, K., Carrier, L. M., Cheever, N. A., & Rokkum, J. (2013). The Media and Technology Usage and Attitudes Scale: An empirical investigation. *Computers in Human Behavior*, 29(6), 2501-2511.
- Suša, D. (2014). Digital immigrants and digital natives: Learning business informatics at higher educational level. *Business systems research journal: international journal of the Society for Advancing Business & Information Technology (BIT)*, 5(2), 84-96.

- Tancer, B. (2012). The 2012 digital marketer: Benchmark and trend report. *I: Experian Marketing Services*.
- Teclehaimanot, B., & Hickman, T. (2011). Student-Teacher Interaction on Facebook: What Students Find Appropriate. *TechTrends*, 55(3), 19. doi:10.1007/s11528-011-0494-8
- Tess, P. A. (2013). The role of social media in higher education classes (real and virtual) – A literature review. *Computers in Human Behavior*, 29(5), A60-A68. doi:<https://doi.org/10.1016/j.chb.2012.12.032>
- Thompson, L. A., Dawson, K., Ferdig, R., Black, E. W., Boyer, J., Coutts, J., & Black, N. P. (2008). The intersection of online social networking with medical professionalism. *J Gen Intern Med*, 23(7), 954-957. doi:10.1007/s11606-008-0538-8
- Tower, M., Latimer, S., & Hewitt, J. (2014). Social networking as a learning tool: Nursing students' perception of efficacy. *Nurse Education Today*, 34(6), 1012-1017. doi:<https://doi.org/10.1016/j.nedt.2013.11.006>
- Tur, G., Marín, V. I., & Carpenter, J. (2017). Using Twitter in higher education in Spain and the USA. *Comunicar: Media Education Research Journal*, 25(51), 19-27.

- Vodanovich, S., Sundaram, D., & Myers, M. (2010). Research Commentary—
Digital Natives and Ubiquitous Information Systems. *Information Systems
Research*, 21(4), 711-723. doi:10.1287/isre.1100.0324
- Wahab, S. A., Rose, R. C., & Osman, S. I. W. (2012). Defining the concepts of
technology and technology transfer: A literature analysis. *International
business research*, 5(1), 61-71.
- Walliman, N. (2017). *Research methods: The basics*: Routledge.
- Wasylyshyn, C., Verhaeghen, P., & Sliwinski, M. J. (2011). Aging and task
switching: a meta-analysis. *Psychology and aging*, 26(1), 15.
- Waycott, J., Sheard, J., Thompson, C., & Clerehan, R. (2013). Making students' work
visible on the social web: A blessing or a curse? *Computers & Education*, 68,
86-95. doi:<https://doi.org/10.1016/j.compedu.2013.04.026>
- Weiss, J., Nolan, J., Hunsinger, J., & Trifonas, P. (2006). *The international
handbook of virtual learning environments* (Vol. 14): Springer.
- Wodzicki, K., Schwämmlein, E., & Moskaliuk, J. (2012). “Actually, I Wanted to
Learn”: Study-related knowledge exchange on social networking sites. *The
Internet and Higher Education*, 15(1), 9-14.
doi:<https://doi.org/10.1016/j.iheduc.2011.05.008>

APPENDICES

Appendix A: Questionnaire

CONSENT FORM FOR STUDENT QUESTIONNAIRES

Dear Students,

I am currently a master's student in the Information Communication Technology in Education program in Department of Computer Education and Instructional Technology currently undergoing my thesis on the Media and Technology Usage and Attitudes of Students- An example of EMU.

The aim of my thesis is as follows:

1. What are the level of media and technology usage and attitudes of university students?
2. Is there any relation between university student's media and technology usage attitudes and gender of the university students?
3. Is there any relation between university student's media and technology usage attitudes and age of the university students?
4. Is there any relation between university student's media and technology usage attitudes and field of studies (faculty) of the university students?
5. Is there any relation between university student's media and technology usage attitudes and class level (grade) of the university students?

The questionnaire consists of two parts. It will take approximately ten minutes of your time to answer all the questions. After reading the questions carefully, please tick the most correct box. Allocating some of your time to fill out this survey sincerely and correctly is crucial for the study. You are free to withdraw from the study at any time. I assure you that all the data provided will be kept confidential and will only be used for research purposes. For more information, you can contact either

me or my thesis supervisor without hesitation. If you agree to participate in the questionnaire, please fill in and sign the form below.

Thank you for your participation and cooperation.

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Electronics Technology
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I have read and understand this form. I have asked my questions and received necessary answers. I accept to participate in this study voluntarily.

Name – Surname: _____

Signature:

Date: _____

The Data Collection Tool

PART 1: General Information of Participants

What is your gender?

Male

Female

What is your age range?

- 18-20
- 21-25
- 26-30
- 31+

What is your academic class level (grade)?

- 1st Year
- 2st Year
- 3st Year
- 4st Year

What is your faculty?

PART 2: Technology and Media Usage and Attitude scale

Attitudes. Subscales

These subscales includes 16 items, which comprise four subscales: Positive Attitudes Toward Technology (6 items), Anxiety About Being Without Technology or Dependence on Technology (3 items), Negative Attitudes Toward Technology (3 items) and Preference for Task Switching (4 items) 5-point Liker scale for all items (with scoring in parentheses)

Strongly Disagree (**SD**)

Disagree (**D**)

Neither Agree nor Disagree (**AD**)

Agree (**A**)

Strongly Agree (**SA**)

		SD	D	AD	A	SA
1	I feel it is important to be able to find any information whenever I want online.					
2	I feel it is important to be able to access the Internet any time I want.					
3	I think it is important to keep up with the latest trends in technology.					
4	I get anxious when I don't have my cell phone.					
5	I get anxious when I don't have the Internet available to me.					
6	I am dependent on my technology.					
7	Technology will provide solutions to many of our problems.					
8	With technology anything is possible.					
9	I feel that I get more accomplished because of technology.					
10	New technology makes people waste too much time.					
11	New technology makes life more complicated.					
12	New technology makes people more isolated.					
13	I prefer to work on several projects in a day, rather than completing one project and then switching to another.					
14	When doing a number of assignments, I like to switch back and forth between them rather than do one at a time.					
15	I like to finish one task completely before focusing on anything else.					
16	When I have a task to complete, I like to break it up by switching to other tasks intermittently.					

Appendix B: Post Hoc Test

Table 4.12. The results of the post hoc test based on the LSD of the relation between university student's social media and technology usage and attitudes and faculty

Dependent Variable	(I) Faculty	(J) Faculty	M.Difference (I-J)	Std. E	P-value
Pos.At	Education	Pharmacy	.37762	1.14556	.742
		engineering	1.99451	1.11033	.073
		Art and Science	.53177	1.21390	.662
		Businees and economics	1.42308	1.24634	.254
		Architecture Engineering	5.15385*	1.37218	.000
		Law	3.42308*	1.47150	.020
		communication and media	1.68778	1.28894	.191
		Health science	7.99451*	1.34745	.000
		medicine	4.38974*	1.32565	.001
		Tourism	-.41026	1.72662	.812
	Dentistry	.92308	1.47150	.531	
	Pharmacy	Education	-.37762	1.14556	.742
		engineering	1.61688*	.81380	.048
		Art and Science	.15415	.95025	.871
		Businees and economics	1.04545	.99136	.292
		Architecture Engineering	4.77622*	1.14556	.000
		Law	3.04545*	1.26283	.016
		communication and media	1.31016	1.04441	.210
		Health science	7.61688*	1.11582	.000
		medicine	4.01212*	1.08939	.000
		Tourism	-.78788	1.55262	.612
	Dentistry	.54545	1.26283	.666	
	engineering	Education	-1.99451	1.11033	.073
		Pharmacy	-1.61688*	.81380	.048
		Art and Science	-1.46273	.90748	.108
		Businees and economics	-.57143	.95044	.548
		Architecture Engineering	3.15934*	1.11033	.005
		Law	1.42857	1.23096	.246
		communication and media	-.30672	1.00564	.761
		Health science	6.00000*	1.07962	.000
		medicine	2.39524*	1.05229	.023
		Tourism	-2.40476	1.52682	.116
	Dentistry	-1.07143	1.23096	.385	
	Art and Science	Education	-.53177	1.21390	.662
		Pharmacy	-.15415	.95025	.871
		engineering	1.46273	.90748	.108
		Businees and economics	.89130	1.06960	.405

		Architecture Engineering	4.62207*	1.21390	.000
		Law	2.89130*	1.32513	.030
		communication and media	1.15601	1.11894	.302
		Health science	7.46273*	1.18588	.000
		medicine	3.85797*	1.16104	.001
		Tourism	-.94203	1.60371	.557
		Dentistry	.39130	1.32513	.768
	Businesses and economics	Education	-1.42308	1.24634	.254
		Pharmacy	-1.04545	.99136	.292
		engineering	.57143	.95044	.548
		Art and Science	-.89130	1.06960	.405
		Architecture Engineering	3.73077*	1.24634	.003
		Law	2.00000	1.35492	.141
		communication and media	.26471	1.15406	.819
		Health science	6.57143*	1.21907	.000
		medicine	2.96667*	1.19492	.013
		Tourism	-1.83333	1.62841	.261
		Dentistry	-.50000	1.35492	.712
	Architecture Engineering	Education	-5.15385*	1.37218	.000
		Pharmacy	-4.77622*	1.14556	.000
		engineering	-3.15934*	1.11033	.005
		Art and Science	-4.62207*	1.21390	.000
		Businesses and economics	-3.73077*	1.24634	.003
		Law	-1.73077	1.47150	.240
		communication and media	-3.46606*	1.28894	.007
		Health science	2.84066*	1.34745	.036
		medicine	-.76410	1.32565	.565
		Tourism	-5.56410*	1.72662	.001
		Dentistry	-4.23077*	1.47150	.004
	Law	Education	-3.42308*	1.47150	.020
		Pharmacy	-3.04545*	1.26283	.016
		engineering	-1.42857	1.23096	.246
		Art and Science	-2.89130*	1.32513	.030
		Businesses and economics	-2.00000	1.35492	.141
		Architecture Engineering	1.73077	1.47150	.240
		communication and media	-1.73529	1.39420	.214
		Health science	4.57143*	1.44847	.002
		medicine	.96667	1.42821	.499
		Tourism	-3.83333*	1.80655	.034
		Dentistry	-2.50000	1.56452	.111
	communication and media	Education	-1.68778	1.28894	.191
		Pharmacy	-1.31016	1.04441	.210
		engineering	.30672	1.00564	.761

		Art and Science	-1.15601	1.11894	.302
		Businees and economics	-.26471	1.15406	.819
		Architecture Engineering	3.46606*	1.28894	.007
		Law	1.73529	1.39420	.214
		Health science	6.30672*	1.26258	.000
		medicine	2.70196*	1.23929	.030
		Tourism	-2.09804	1.66123	.207
		Dentistry	-.76471	1.39420	.584
	Health science	Education	-7.99451*	1.34745	.000
		Pharmacy	-7.61688*	1.11582	.000
		engineering	-6.00000*	1.07962	.000
		Art and Science	-7.46273*	1.18588	.000
		Businees and economics	-6.57143*	1.21907	.000
		Architecture Engineering	-2.84066*	1.34745	.036
		Law	-4.57143*	1.44847	.002
		communication and media	-6.30672*	1.26258	.000
		medicine	-3.60476*	1.30004	.006
		Tourism	-8.40476*	1.70703	.000
		Dentistry	-7.07143*	1.44847	.000
	Medicine	Education	-4.38974*	1.32565	.001
		Pharmacy	-4.01212*	1.08939	.000
		engineering	-2.39524*	1.05229	.023
		Art and Science	-3.85797*	1.16104	.001
		Businees and economics	-2.96667*	1.19492	.013
		Architecture Engineering	.76410	1.32565	.565
		Law	-.96667	1.42821	.499
		communication and media	-2.70196*	1.23929	.030
		Health science	3.60476*	1.30004	.006
		Tourism	-4.80000*	1.68988	.005
		Dentistry	-3.46667*	1.42821	.016
	Tourism	Education	.41026	1.72662	.812
		Pharmacy	.78788	1.55262	.612
		engineering	2.40476	1.52682	.116
		Art and Science	.94203	1.60371	.557
		Businees and economics	1.83333	1.62841	.261
		Architecture Engineering	5.56410*	1.72662	.001
		Law	3.83333*	1.80655	.034
		communication and media	2.09804	1.66123	.207
		Health science	8.40476*	1.70703	.000
		medicine	4.80000*	1.68988	.005
		Dentistry	1.33333	1.80655	.461
	Dentistry	Education	-.92308	1.47150	.531
		Pharmacy	-.54545	1.26283	.666
		engineering	1.07143	1.23096	.385

		Art and Science	-.39130	1.32513	.768
		Busineses and economics	.50000	1.35492	.712
		Architecture Engineering	4.23077*	1.47150	.004
		Law	2.50000	1.56452	.111
		communication and media	.76471	1.39420	.584
		Health science	7.07143*	1.44847	.000
		medicine	3.46667*	1.42821	.016
		Tourism	-1.33333	1.80655	.461
Anxi	Education	Pharmacy	.97917	.65500	.136
		engineering	2.10569*	.63509	.001
		Art and Science	1.14493	.68907	.097
		Busineses and economics	1.81667*	.70656	.010
		Architecture Engineering	1.97436*	.77462	.011
		Law	.66667	.78996	.399
		communication and media	2.54902*	.72957	.001
		Health science	3.45238*	.76122	.000
		medicine	1.60000*	.74942	.033
		Tourism	1.00000	.96750	.302
	Pharmacy	Education	-.97917	.65500	.136
		engineering	1.12652*	.45643	.014
		Art and Science	.16576	.52896	.754
		Busineses and economics	.83750	.55156	.130
		Architecture Engineering	.99519	.63642	.119
		Law	-.31250	.65500	.634
		communication and media	1.56985*	.58074	.007
		Health science	2.47321*	.62004	.000
		medicine	.62083	.60549	.306
		Tourism	.02083	.86084	.981
	Engineering	Dentistry	1.68750*	.70102	.017
		Education	-2.10569*	.63509	.001
		Pharmacy	-1.12652*	.45643	.014
		Art and Science	-.96076	.50410	.057
		Busineses and economics	-.28902	.52776	.584
		Architecture Engineering	-.13133	.61591	.831
		Law	-1.43902*	.63509	.024
		communication and media	.44333	.55819	.428
		Health science	1.34669*	.59897	.025
		medicine	-.50569	.58390	.387
		Tourism	-1.10569	.84579	.192
	Art and Science	Dentistry	.56098	.68246	.412
		Education	-1.14493	.68907	.097
Pharmacy		-.16576	.52896	.754	
		engineering	.96076	.50410	.057

		Business and economics	.67174	.59161	.257
		Architecture Engineering	.82943	.67142	.217
		Law	-.47826	.68907	.488
		communication and media	1.40409*	.61890	.024
		Health science	2.30745*	.65592	.000
		medicine	.45507	.64219	.479
		Tourism	-.14493	.88703	.870
		Dentistry	1.52174*	.73295	.038
	Business and economics	Education	-1.81667*	.70656	.010
		Pharmacy	-.83750	.55156	.130
		engineering	.28902	.52776	.584
		Art and Science	-.67174	.59161	.257
		Architecture Engineering	.15769	.68937	.819
		Law	-1.15000	.70656	.104
		communication and media	.73235	.63833	.252
		Health science	1.63571*	.67428	.016
		medicine	-.21667	.66093	.743
		Tourism	-.81667	.90069	.365
		Dentistry	.85000	.74942	.257
	Architecture Engineering	Education	-1.97436*	.77462	.011
		Pharmacy	-.99519	.63642	.119
		engineering	.13133	.61591	.831
		Art and Science	-.82943	.67142	.217
		Business and economics	-.15769	.68937	.819
		Law	-1.30769	.77462	.092
		communication and media	.57466	.71293	.421
		Health science	1.47802*	.74529	.048
		medicine	-.37436	.73323	.610
		Tourism	-.97436	.95502	.308
		Dentistry	.69231	.81390	.395
	Law	Education	-.66667	.78996	.399
		Pharmacy	.31250	.65500	.634
		engineering	1.43902*	.63509	.024
		Art and Science	.47826	.68907	.488
		Business and economics	1.15000	.70656	.104
		Architecture Engineering	1.30769	.77462	.092
		communication and media	1.88235*	.72957	.010
		Health science	2.78571*	.76122	.000
		medicine	.93333	.74942	.214
		Tourism	.33333	.96750	.731
		Dentistry	2.00000*	.82852	.016
	communication and media	Education	-2.54902*	.72957	.001
		Pharmacy	-1.56985*	.58074	.007
		engineering	-.44333	.55819	.428

		Art and Science	-1.40409*	.61890	.024
		Businees and economics	-.73235	.63833	.252
		Architecture Engineering	-.57466	.71293	.421
		Law	-1.88235*	.72957	.010
		Health science	.90336	.69835	.197
		medicine	-.94902	.68547	.167
		Tourism	-1.54902	.91885	.093
		Dentistry	.11765	.77115	.879
	Health science	Education	-3.45238*	.76122	.000
		Pharmacy	-2.47321*	.62004	.000
		engineering	-1.34669*	.59897	.025
		Art and Science	-2.30745*	.65592	.000
		Businees and economics	-1.63571*	.67428	.016
		Architecture Engineering	-1.47802*	.74529	.048
		Law	-2.78571*	.76122	.000
		communication and media	-.90336	.69835	.197
		medicine	-1.85238*	.71907	.010
		Tourism	-2.45238*	.94418	.010
		Dentistry	-.78571	.80117	.327
	medicine	Education	-1.60000*	.74942	.033
		Pharmacy	-.62083	.60549	.306
		engineering	.50569	.58390	.387
		Art and Science	-.45507	.64219	.479
		Businees and economics	.21667	.66093	.743
		Architecture Engineering	.37436	.73323	.610
		Law	-.93333	.74942	.214
		communication and media	.94902	.68547	.167
		Health science	1.85238*	.71907	.010
		Tourism	-.60000	.93469	.521
		Dentistry	1.06667	.78996	.178
	Tourism	Education	-1.00000	.96750	.302
		Pharmacy	-.02083	.86084	.981
		engineering	1.10569	.84579	.192
		Art and Science	.14493	.88703	.870
		Businees and economics	.81667	.90069	.365
		Architecture Engineering	.97436	.95502	.308
		Law	-.33333	.96750	.731
		communication and media	1.54902	.91885	.093
		Health science	2.45238*	.94418	.010
		medicine	.60000	.93469	.521
		Dentistry	1.66667	.99923	.096
	Dentistry	Education	-2.66667*	.82852	.001
		Pharmacy	-1.68750*	.70102	.017

		engineering	-.56098	.68246	.412
		Art and Science	-1.52174*	.73295	.038
		Business and economics	-.85000	.74942	.257
		Architecture Engineering	-.69231	.81390	.395
		Law	-2.00000*	.82852	.016
		communication and media	-.11765	.77115	.879
		Health science	.78571	.80117	.327
		medicine	-1.06667	.78996	.178
		Tourism	-1.66667	.99923	.096
Neg.At	Education	Pharmacy	.24942	.59473	.675
		engineering	.87617	.57810	.130
		Art and Science	.41806	.63021	.507
		Business and economics	.91154	.64705	.160
		Architecture Engineering	-1.78846*	.72707	.014
		Law	.79487	.72707	.275
		communication and media	1.93213*	.66917	.004
		Health science	1.67582*	.69955	.017
		medicine	-1.27179	.68823	.065
		Tourism	-.53846	.89640	.548
		Dentistry	.86154	.76395	.260
	Pharmacy	Education	-.24942	.59473	.675
		engineering	.62676	.42475	.141
		Art and Science	.16864	.49334	.733
		Business and economics	.66212	.51468	.199
		Architecture Engineering	-2.03788*	.61225	.001
		Law	.54545	.61225	.373
		communication and media	1.68271*	.54222	.002
		Health science	1.42641*	.57929	.014
		medicine	-1.52121*	.56557	.007
		Tourism	-.78788	.80606	.329
		Dentistry	.61212	.65561	.351
	engineering	Education	-.87617	.57810	.130
		Pharmacy	-.62676	.42475	.141
		Art and Science	-.45811	.47316	.333
		Business and economics	.03537	.49537	.943
		Architecture Engineering	-2.66463*	.59611	.000
		Law	-.08130	.59611	.892
		communication and media	1.05595*	.52392	.044
		Health science	.79965	.56221	.156
		medicine	-2.14797*	.54806	.000
		Tourism	-1.41463	.79387	.075
Dentistry		-.01463	.64057	.982	
Art and	Education	-.41806	.63021	.507	

	Science	Pharmacy	-.16864	.49334	.733
		engineering	.45811	.47316	.333
		Businees and economics	.49348	.55530	.375
		Architecture Engineering	-2.20652*	.64677	.001
		Law	.37681	.64677	.560
		communication and media	1.51407*	.58091	.009
		Health science	1.25776*	.61566	.042
		medicine	-1.68986*	.60277	.005
		Tourism	-.95652	.83259	.251
		Dentistry	.44348	.68796	.520
	Businees and economics	Education	-.91154	.64705	.160
		Pharmacy	-.66212	.51468	.199
		engineering	-.03537	.49537	.943
		Art and Science	-.49348	.55530	.375
		Architecture Engineering	-2.70000*	.66319	.000
		Law	-.11667	.66319	.860
		communication and media	1.02059	.59914	.089
		Health science	.76429	.63289	.228
		medicine	-2.18333*	.62036	.000
		Tourism	-1.45000	.84541	.087
	Architectur e Engineering	Dentistry	-.05000	.70342	.943
		Education	1.78846*	.72707	.014
		Pharmacy	2.03788*	.61225	.001
		engineering	2.66463*	.59611	.000
		Art and Science	2.20652*	.64677	.001
		Businees and economics	2.70000*	.66319	.000
		Law	2.58333*	.74147	.001
		communication and media	3.72059*	.68478	.000
		Health science	3.46429*	.71450	.000
		medicine	.51667	.70342	.463
	Law	Tourism	1.25000	.90811	.169
		Dentistry	2.65000*	.77766	.001
		Education	-.79487	.72707	.275
		Pharmacy	-.54545	.61225	.373
		engineering	.08130	.59611	.892
		Art and Science	-.37681	.64677	.560
		Businees and economics	.11667	.66319	.860
		Architecture Engineering	-2.58333*	.74147	.001
		communication and media	1.13725	.68478	.098
		Health science	.88095	.71450	.218
	communicat ion and	medicine	-2.06667*	.70342	.003
		Tourism	-1.33333	.90811	.143
	Dentistry	.06667	.77766	.932	
	Education	-1.93213*	.66917	.004	
	Pharmacy	-1.68271*	.54222	.002	

	media	Engineering	-1.05595*	.52392	.044
		Art and Science	-1.51407*	.58091	.009
		Busineses and economics	-1.02059	.59914	.089
		Architecture Engineering	-3.72059*	.68478	.000
		Law	-1.13725	.68478	.098
		Health science	-.25630	.65548	.696
		medicine	-3.20392*	.64339	.000
		Tourism	-2.47059*	.86245	.004
		Dentistry	-1.07059	.72382	.140
		Health science	Education	-1.67582*	.69955
	Pharmacy		-1.42641*	.57929	.014
	engineering		-.79965	.56221	.156
	Art and Science		-1.25776*	.61566	.042
	Busineses and economics		-.76429	.63289	.228
	Architecture Engineering		-3.46429*	.71450	.000
	Law		-.88095	.71450	.218
	communication and media		.25630	.65548	.696
	medicine		-2.94762*	.67493	.000
	Tourism		-2.21429*	.88623	.013
	Dentistry		-.81429	.75199	.279
	Medicine	Education	1.27179	.68823	.065
		Pharmacy	1.52121*	.56557	.007
		Engineering	2.14797*	.54806	.000
		Art and Science	1.68986*	.60277	.005
		Busineses and economics	2.18333*	.62036	.000
		Architecture Engineering	-.51667	.70342	.463
		Law	2.06667*	.70342	.003
		communication and media	3.20392*	.64339	.000
		Health science	2.94762*	.67493	.000
		Tourism	.73333	.87732	.404
		Dentistry	2.13333*	.74147	.004
	Tourism	Education	.53846	.89640	.548
		Pharmacy	.78788	.80606	.329
		engineering	1.41463	.79387	.075
		Art and Science	.95652	.83259	.251
		Busineses and economics	1.45000	.84541	.087
		Architecture Engineering	-1.25000	.90811	.169
		Law	1.33333	.90811	.143
		communication and media	2.47059*	.86245	.004
		Health science	2.21429*	.88623	.013
medicine		-.73333	.87732	.404	
Dentistry		1.40000	.93790	.136	
Dentistry	Education	-.86154	.76395	.260	

		Pharmacy	-.61212	.65561	.351
		engineering	.01463	.64057	.982
		Art and Science	-.44348	.68796	.520
		Businees and economics	.05000	.70342	.943
		Architecture Engineering	-2.65000*	.77766	.001
		Law	-.06667	.77766	.932
		communication and media	1.07059	.72382	.140
		Health science	.81429	.75199	.279
		medicine	-2.13333*	.74147	.004
		Tourism	-1.40000	.93790	.136
Swi	Education	Pharmacy	-.63403	.57803	.273
		engineering	-.17115	.56356	.762
		Art and Science	-.30070	.61752	.627
		Businees and economics	-.44615	.62889	.478
		Architecture Engineering	.38462	.69238	.579
		Law	-1.17949	.70666	.096
		communication and media	.33032	.65038	.612
		Health science	.65385	.67991	.337
		medicine	.15385	.66891	.818
		Tourism	-1.51282	.87123	.083
		Dentistry	-1.84615*	.74250	.013
	Pharmacy	Education	.63403	.57803	.273
		engineering	.46288	.41512	.265
		Art and Science	.33333	.48587	.493
		Businees and economics	.18788	.50023	.707
		Architecture Engineering	1.01865	.57803	.079
		Law	-.54545	.59506	.360
		communication and media	.96435	.52700	.068
		Health science	1.28788*	.56303	.023
		medicine	.78788	.54969	.153
		Tourism	-.87879	.78344	.263
		Dentistry	-1.21212	.63721	.058
	engineering	Education	.17115	.56356	.762
		Pharmacy	-.46288	.41512	.265
		Art and Science	-.12955	.46855	.782
		Businees and economics	-.27500	.48343	.570
		Architecture Engineering	.55577	.56356	.325
		Law	-1.00833	.58101	.083
		communication and media	.50147	.51108	.327
		Health science	.82500	.54816	.133
		medicine	.32500	.53445	.543
		Tourism	-1.34167	.77282	.083
		Dentistry	-1.67500*	.62411	.008

Art and Science	Education	.30070	.61752	.627
	Pharmacy	-.33333	.48587	.493
	engineering	.12955	.46855	.782
	Businees and economics	-.14545	.54538	.790
	Architecture Engineering	.68531	.61752	.268
	Law	-.87879	.63349	.166
	communication and media	.63102	.57003	.269
	Health science	.95455	.60350	.114
	Medicine	.45455	.59108	.442
	Tourism	-1.21212	.81301	.137
	Dentistry	-1.54545*	.67324	.022
Businees and economics	Education	.44615	.62889	.478
	Pharmacy	-.18788	.50023	.707
	engineering	.27500	.48343	.570
	Art and Science	.14545	.54538	.790
	Architecture Engineering	.83077	.62889	.187
	Law	-.73333	.64457	.256
	communication and media	.77647	.58232	.183
	Health science	1.10000	.61513	.074
	medicine	.60000	.60294	.320
	Tourism	-1.06667	.82167	.195
Dentistry	-1.40000*	.68367	.041	
Architectur e Engineering	Education	-.38462	.69238	.579
	Pharmacy	-1.01865	.57803	.079
	engineering	-.55577	.56356	.325
	Art and Science	-.68531	.61752	.268
	Businees and economics	-.83077	.62889	.187
	Law	-1.56410*	.70666	.027
	communication and media	-.05430	.65038	.934
	Health science	.26923	.67991	.692
	Medicine	-.23077	.66891	.730
	Tourism	-1.89744*	.87123	.030
	Dentistry	-2.23077*	.74250	.003
Law	Education	1.17949	.70666	.096
	Pharmacy	.54545	.59506	.360
	engineering	1.00833	.58101	.083
	Art and Science	.87879	.63349	.166
	Businees and economics	.73333	.64457	.256
	Architecture Engineering	1.56410*	.70666	.027
	communication and media	1.50980*	.66556	.024
	Health science	1.83333*	.69444	.009
	medicine	1.33333	.68367	.052
	Tourism	-.33333	.88262	.706

		Dentistry	-.66667	.75583	.378
	communication and media	Education	-.33032	.65038	.612
		Pharmacy	-.96435	.52700	.068
		engineering	-.50147	.51108	.327
		Art and Science	-.63102	.57003	.269
		Busineses and economics	-.77647	.58232	.183
		Architecture Engineering	.05430	.65038	.934
		Law	-1.50980*	.66556	.024
		Health science	.32353	.63708	.612
		medicine	-.17647	.62533	.778
		Tourism	-1.84314*	.83824	.028
		Dentistry	-2.17647*	.70349	.002
	Health science	Education	-.65385	.67991	.337
		Pharmacy	-1.28788*	.56303	.023
		engineering	-.82500	.54816	.133
		Art and Science	-.95455	.60350	.114
		Busineses and economics	-1.10000	.61513	.074
		Architecture Engineering	-.26923	.67991	.692
		Law	-1.83333*	.69444	.009
		communication and media	-.32353	.63708	.612
		medicine	-.50000	.65598	.446
		Tourism	-2.16667*	.86135	.012
		Dentistry	-2.50000*	.73088	.001
	Medicine	Education	-.15385	.66891	.818
		Pharmacy	-.78788	.54969	.153
		engineering	-.32500	.53445	.543
		Art and Science	-.45455	.59108	.442
		Busineses and economics	-.60000	.60294	.320
		Architecture Engineering	.23077	.66891	.730
		Law	-1.33333	.68367	.052
		communication and media	.17647	.62533	.778
		Health science	.50000	.65598	.446
			Tourism	-1.66667	.85269
		Dentistry	-2.00000*	.72066	.006
	Tourism	Education	1.51282	.87123	.083
		Pharmacy	.87879	.78344	.263
		engineering	1.34167	.77282	.083
		Art and Science	1.21212	.81301	.137
		Busineses and economics	1.06667	.82167	.195
		Architecture Engineering	1.89744*	.87123	.030
		Law	.33333	.88262	.706
		communication and media	1.84314*	.83824	.028
		Health science	2.16667*	.86135	.012
		medicine	1.66667	.85269	.051

		Dentistry	-.33333	.91156	.715
	Dentistry	Education	1.84615*	.74250	.013
		Pharmacy	1.21212	.63721	.058
		engineering	1.67500*	.62411	.008
		Art and Science	1.54545*	.67324	.022
		Businees and economics	1.40000*	.68367	.041
		Architecture Engineering	2.23077*	.74250	.003
		Law	.66667	.75583	.378
		communication and media	2.17647*	.70349	.002
		Health science	2.50000*	.73088	.001
		medicine	2.00000*	.72066	.006
		Tourism	.33333	.91156	.715

Pos.At: positive viewpoints about technologies; **Anxi:** concern about being away from technologies; **Neg.At:** negative viewpoints about technologies; **Swi:** desire for assignment changing

Appendix C: Turnitin Originality Report

Turnitin Originality Report

Thesis_V12 by Amir Sh.

From Amir_H_S_Hasani (SCHOOL OF COMPUTING AND TECHNOLOGY)



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Appendix D: Application for Ethics



Reference No: ETK00-2018-0316

11. 12. 2018

Subject: Application for Ethics.

RE: Amir Hossein Sheikh Hassani
Faculty of Education

To Whom It May Concern:

On the date of **11.12.2018**, (Meeting number **2018/63-06**), EMU's Scientific Research and Publication Ethics Committee (BAYEK) has granted, Amir Hossein Sheikh Hassani from the, Faculty of Education to pursue with his MA. thesis work **Media and Technology Usage and Attitudes of Students: An example of EMU** under the supervision of Prof. Dr. Mustafa İlkan. This decision has been taken by the majority of votes.

Regards,


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

ŞT/ba.