A Case Study of Teachers' Perceptions on Blended Learning Approach in Computer Engineering Courses at Eastern Mediterranean University

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ABSTRACT

Despite the fact that research endorses the blended learning methodology as a way to manifest and engage learners, research also enclosure the prevailing doubt with instructors when it comes to enclosing technology. Few teachers are utilizing the tools. Structured by connectivism and social constructivism theories, this qualitative case study intent on teachers' views of blended learning, its persuade on their teaching practices, and how they perceive that it helps learners in learning process. The leading research questions addressed the successes and challenges of blended learning, including how Moodle was used for formative e-assessment. Data were gathered from 14 deliberately chosen teachers by semi-structured interviews per teacher. Open end built ordinary themes during the data analysis. Findings show that these teachers believe that blended learning assists engagement, cooperation, self-regulation and student-centered learning. While they concurred that blended learning approach assisted their practice, challenges were indicated suchlike learners disengaging in the learning process, tools and framework affairs, and the interval to merge technology effectively. In accordance with these findings, professional management needs to plot to improve teacher pedagogy for utilizing blended learning. This study may assist as an example for administration from other institutes who are integrating technologies and train learners to be global citizens with the obligatory 21st century abilities.

Keywords: Blended learning, Teaching, Moodle, Technologies, Online learning.

ÖZ

Araştırmanın, harmanlanmış öğrenme metodolojisini öğrenenlerin ilgisini çekmenin bir yolu olarak desteklemesine rağmen, araştırma, teknolojiyi kapsamaya gelince öğretmenlerle ilgili şüphe uyandırıyor. Birkaç öğretmen araçları kullanıyor. Bağlantısallık ve sosyal yapılandırmacılık teorileri tarafından yapılandırılan bu nitel örnek olay incelemesi öğretmenlerin harmanlanmış öğrenim görüşlerini, öğretim uygulamalarına ikna edilmelerini ve öğrenenlerin öğrenme sürecinde nasıl yardımcı olduklarını algıladıklarını amaçlamaktadır. Önde gelen araştırma soruları, harmanlanmış öğrenmenin başarılarını ve zorluklarını ele aldı. Veriler, bilinçli olarak seçilen 14 öğretmenden öğretmen başına yarı yapılandırılmış görüşmelerle toplanmıştır. Veri analizi sırasında açık uçlu sıradan temalar oluşturulmuştur. Bulgular, bu öğretmenlerin harmanlanmış öğrenmenin işbirliği, öz düzenleme ve öğrenci merkezli öğrenmeye yardımcı olduğuna inandığını göstermektedir. Harmanlanmış öğrenme yaklaşımının uygulamalarına yardımcı olduğu konusunda hemfikir olurken, öğrenme sürecinde ayrılan öğrencilerin, araçların ve çerçeve işlerinin ve teknolojiyi etkin bir şekilde birleştirme aralığının olduğu gibi zorluklar olduğu belirtildi. Bu bulgulara göre, profesyonel yönetimin harmanlanmış öğrenmeyi kullanmak için öğretmen pedagojisini geliştirmek için plan yapması gerekir. Bu çalışma, teknolojileri entegre eden ve zorunlu 21. yüzyıl yetenekleri ile öğrencileri küresel vatandaşlar olma konusunda eğiten diğer enstitülerden yönetime örnek teşkil edebilir.

Anahtar Sözcükler: Harmanlanmış öğrenme, Öğretim, Moodle, Teknoloji, Çevrimiçi öğrenme.

DEDICATION

This Master study is dedicated to my Mother. Her love, understanding and encouragement have been unyielding. Your words of support throughout this entire journey have meant more to me than I can express. I will forever be in Your debt…

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INTRODUCTION

1.1 Background of the Study

Developments in Information and Communication Technologies (ICTs) have impacted all sectors of society, including the education sector. In higher education, application of ICT in form of e-learning is already changing teaching and learning processes. Although research supports the blended learning methodology as a way to personalize and engage students, research also documents the widespread hesitation among teachers when it comes to embracing technology. What is more, ICT in education is an area which is in turmoil and in which many participants play a role. Forces that operate on the micro- and meso-level of the education system (that is at schools and in classrooms) may be influential in bringing about changes that are beyond the direct control of ministries of education. Therefore, it is important for educational decision making to periodically assess the actual situation of ICT in educational practice (Pelgrum, 2001).

Many countries are regularly monitoring the status of ICT in education in order not only to account for the (sometimes huge) financial investments from public sources but also to inform decisions about the content and directions of future policies. In addition to national assessments, governments are usually quite eager to find out how the implementation of ICT-related efforts is progressing in comparison with other countries.

The use of Blended Learning (BL) in higher education has increased significantly during the past decade. This includes an investigation of how to best train the teachers in blended learning pedagogy (the method and practice of teaching, especially as an academic subject or theoretical concept). Perhaps the most common 'blend' discussed in research publications concerns the mixing of e-learning and traditional forms of learning. This is a particularly muddled definition, not least because what counts as 'e-learning' is notoriously hard to define. For example, recently provided the following definition that someone is learning in a way that uses information and communication technologies, they are using e-learning. They could be a pre-school child playing an interactive game; they could be a group of pupils collaborating on a history project with pupils in another country via the Internet [… etc.] − it all counts as e-learning. Providing a list, rather than a definition, is interesting (Oliver, and Trigwell, 2005). With alignment to these, the purpose of this research is to investigate teachers' use of blended learning, the successes, and challenges, including how Moodle is used as a tool for formative e-assessment.

Additionally, Moodle is one type of LMS that allows teachers to upload lessons, quizzes, and assignments. The results of this study identify the specific components of blended learning and various technology tools that assist teachers in addressing student learning outcomes.

1.2 Problem Statement

In recent years, Blended Learning has become a major part of the educational world. Since the increase in demands for blended learning and also the effects of teaching methods on the quality of instruction, investigation of instructional design methods is an essential part of the educational world. Due to the importance of teaching methods

which teachers use in blended learning, discovering probable problems in the implementation of existing methods is important.

The main issue for an instructor is to create an effective pedagogy in a blended learning environment that fosters actual learning and teaching with curiosity, energy, creativity and problem-solving skills. Nowadays existing advanced communication tools help both teachers and students to have a real chance to make their learning experience as close to the regular face-to-face situation. Therefore, teachers should adopt their teaching methods in order to create a more effective learning environment.

With the advancements of the WWW, Internet, and computer accessibility, along with education's need to advance teaching and learning, the rise of blended learning has emerged. While technology is expensive and schools are faced with bleak budgets and greater class sizes, public education is turning to technology (Fassbender, Lucier, & Fink, 2014) because it has the power to entice passive listeners to active participants (Jacobs, 2010). Blended learning has the potential to allow technology to do what it does best–engage the learner (Delialioglu, 2012).

Shifting the burden from teacher-cantered to student-cantered instruction, blended learning delivers opportunities for educators to engage all learners while instructing students in small groups to concentrate on individual needs (Chubb, 2012). However, as with any approach to teaching, there are some disadvantages. Blended learning requires a financial commitment by the institution to acquire the technological needs and resources. Moreover, the faculty must be willing and dedicated to learning the new technology and use it in their practice (Capo & Orellana, 2012). The ability for

teachers to adopt this new pedagogy has become more important as studies reveal it increases student engagement and achievement (Delialioglu, 2012). Because of the positive impact blended learning has shown on student learning (Köse, 2010) and the difficulty teachers have implementing blended learning (Aslan, Huh, Lee, & Reigeluth, 2011), understanding teachers' perceptions about blended learning and LMSs was the emphasis of this study. The use of LMSs is a convenient way to provide access to content, assess students' knowledge, provide feedback, and promote collaboration and communication (Porter, 2013); furthermore, LMS is supported by research to be an effective tool for teaching and learning (Sánchez & Hueros, 2010). In recent years, K to 12 institutes is following the lead of institutes of higher education and delving into this new 21st century pedagogy (Kotzer & Elran, 2012). LMSs, such as Moodle, has emerged as one of the leading products in the open source LMS market with over 60 million users (Porter, 2013). With the effort of technical support along with the needed teacher and student expertise, many institutions are continually re-evaluating their decision to adopt and support LMSs. Furthermore, limited qualitative research has been done to explore teachers' perceptions of using Moodle to engage students in the learning process and how Moodle can be used as a formative assessment tool to promote self-efficiency and inform teacher practice (Al Busaidi & Al-Shihi, 2012). This study was designed to explore teachers' perceptions about the practice of using blended learning to assist students in the learning process.

As more primary and secondary schools turn to blended learning, the use of LMSs has become more prevalent as a tool to manage and deliver educational material (Psycharis et al., 2013). While research at the university level appears more

widespread, very little research has been conducted at the high school level. The research that has been conducted at this level suggests additional research should be conducted to determine how teachers use an LMS, what challenges they face, and what impact an LMS has on teaching and learning (Delialioglu, 2012). By understanding the challenges and successes of high school teachers who are ICT users, this thesis could assist to understand why some teachers are not using or maybe underusing the technologies and their LMS.

1.2.1 The Purpose of the Study

The purpose of this research is to look into teachers' use of blended learning in Computer Engineering courses. The findings from this research will show teachers' specific reasons for using blended learning and other various technology tools that assist them while teaching. As we all know, today we are living in the computers and information's era. Therefore, computers have significantly affected the humans' lifestyle and condition in every aspect. It also had a vast influence on education. What is more, ICT in education is an area which is in turmoil and in which many participants play a role. Forces that operate on the micro- and meso-level of the education system (that is at schools and in classrooms) may be influential in bringing about changes that are beyond the direct control of ministries of education. Therefore, it is important for educational decision making to periodically assess the actual situation of ICT in educational practice (Pelgrum, 2001). Moreover, the technology has given us lots of tools and facilities which make the teaching and learning process more effective and more convenient. With the development of portable and mobile devices, education has transferred beyond the walls of the schools. Hence, learners sometimes do not necessarily need to be in classes physically.

The use of blended learning in higher education has increased significantly during the past decade. This includes an investigation of how to best train the teachers in BL pedagogy (the method and practice of teaching, especially as an academic subject or theoretical concept). Perhaps the most common 'blend' discussed in research publications concerns the mixing of e-learning and traditional forms of learning. The data from this research has been gathered to explore the existing teaching methods in blended learning, in order to improve probable problems and make it more effective. The researcher aims to investigate the following questions:

- How do teachers use blended learning approach to assist students' in the learning process?

- What are the advantages of using blended learning approach in Computer Engineering courses?

- From the teachers' point of view, what are the challenges of using blended learning approach in teaching and learning?

1.2.2 Significance of the Study

This research will not only contribute to the field of teacher training but also use teaching alternatives in class. Also, this research might contribute to the institutional administrators and curriculum and instruction on how to use and guide teachers for teaching in a blended learning environment. This research is significant because simply the on-going trend of transitioning university courses to a blended learning model is significantly increasing day by day.

In order to shed a light on the existing problems in the use of teachers teaching methods in blended learning, there is a need for further research regarding this issue at EMU. Nowadays due to the increasing demands for this type of instruction,

applying effective teaching methods to deliver information via computers and through online courses is really significant. In addition, learners' perception regarding blended learning can affect teachers' teaching practices. As a result, considering learners' preferences can help the researcher to suggest a more effective pedagogy.

1.2.3 Assumptions

It was assumed by the researcher that:

- Some of the instructors might not be willing to answer the questions.

- Teachers could not be able to set up an appropriate time for the semi-structured interviews.

- The participants might not reflect their true perceptions.

1.2.4 Limitations

Due to lack of blended learning in the university, this research can be applied the Departments of Computer Engineering courses at Eastern Mediterranean University. The semi-structured interview might have been answered by teachers who have not taken any courses which have blended learning approach. Teachers might answer some of the questions.

1.3 Definition of Terms

- **Blended learning:** Blended learning occurs when students learn at least part of the time in a brick and mortar environment using online technologies with the student having control over the pace, path, and methods used (Horn & Staker, 2011).

- **E-assessment:** Electronic tools that support formative assessment (Daly, Pachler, Mor, & Mellar, 2010).

- **Engagement:**   Engagement occurs by students when activities are meaningful, and students are actively involved in the acquisition of knowledge (Alrushiedat & Olfman, 2013; Delialioglu, 2012).

- **Formative assessment:**   An activity that centers on a learner or group of learners who provide information and receive feedback allowing for the modifications of teaching and learning by both the learner and the instructor (Daly et al., 2010).

- **Information and Communication Technologies (ICT):** The   application of computers and communication networks including the Internet (Webb, Gibson, & Forkosh-Baruch, 2013).

- **Learning Management System (LMS):**   LMS platform is designed to manage and deliver educational material. It offers institutional, student, and faculty support, teaching and learning processes, along with course development, evaluations and assessments (Psycharis et al., 2013).

- **Learning style:**   Learning is a cognitive activity that differs from learner to learner. E-learning or electronic learning involves four learning styles: active and reflexive learning, sensitive and intuitive learning, visual and verbal learning, and sequential and global learning (Despotović-Zrakić, Marković, Bogdanović, Barać, & Krčo, 2012).

- **Self-regulated learning:**   Self-regulated learning denotes that learners work towards managing and directing their learning and learning activities to obtain deeper knowledge (Wang, 2011).

- **Moodle:**   The term Moodle stands for Modular Object-Oriented Dynamic Learning Environment (Tiantong &Teemuangsai, 2013). It is an open source, a free learning platform that allows teachers to create or upload

lessons, quizzes, assignments, or discussion forums, which are all linked to a grade book (Ursache, Herman, Poka, & Vaju, 2012). Moodle allows the integration of various resources, including HTML documents, multimedia resources such as graphics, videos, or audios to be uploaded and shared (Brandl, 2005).

- **Technology integration:**   The concept of merging face-to-face lecture with online technologies to produce learning through a variety of approaches (Al-Ani, 2013).

- **Web 2.0:**   Technologies that encourage learners to creatively design, collaborate, and share their personal learning (Tu et al., 2012). Web 2.0 includes social networks, creative works like podcasts or video casts, blogs, and the expansion of knowledge through wikis or web pages (Greenhow et al., 2009).

- **WebCT:**   A widely used learning management system that has similar capabilities as Moodle (Sanchez & Hueros, 2010).

Chapter 2

REVIEW OF LITERATURE

Blended learning is a cross between face to face and the integration of technology which is framed in connectivism and social constructivism learning theories (Al-Ani, 2013). Blended learning happens when the learner learn at least part of the time in brick and mortar environment using online technologies with the student having control over pace, technique, and path used (Horn and Staker, 2011). Learning management systems can oversee and convey individualized instruction in view of pace, technique, and path (Despotović-Zrakić et al., 2012). Besides, the most recent rendition of a web, Web 2.0, enables educators and learners to make and contribute their learning. Web 2.0 is characterized as technologies that urge students to design and share their own learning (Tu et al., 2012). This area demonstrates the examination showing that blended learning empowers engagement, correspondence, self-control and individualization (Tiantong and Teemuangsai, 2013). Furthermore, featuring the points of advantages, the review of this literature have information about barriers and challenges with coordinating blended learning into educating and learning and also the disadvantages of utilizing such frameworks.

2.1 Theoretical Framework

The investigation was grounded in connectivism and social constructivism theories. These have been touted as learning theories for the computerized age (Al-Ani, 2013). As the new epistemology, connectivism shows that learning happens when information is shared and manipulated to make new learning (Del Moral, Cernea,

and Villalustre, 2013). The reconciliation of information communication technologies has made a move from traditional epistemology to a new epistemology in view of active learning and a shared creation of knowledge (Dede, 2008). Social constructivism is that instructors and learners research and creates knowledge. Consequently, it is not very surprising that the current form of Web 2.0, is redefining instructing and learning (Paily, 2013).

As Siemens (as referred to in Kop and Hill, 2008) started the emphasis on this new epistemology in their blogosphere in 2005 by talking about share learning. Siemens (2008) proposed since learning happens without instructing and an individual can instruct themselves, knowledge is focused on associating different information sources to the students. Late reports advocate that the abilities required for school and profession availability focus on critical thinking and problem solving, research and coordinated efforts to make learning in an important experience (Darling-Hammond et al., 2014). Technology can work as a tool to react to those abilities, thus, it is sensible for teachers to grasp technology to create active students. In any case, a straightforward exchange of offline to web-based instructing does not identify with a good pedagogy, rather, instructors must figure out how to blend their practices (Francis, 2012). Subsequent to Chickering (1996) laid out the Seven Principles of Good Practice for Undergraduate Education; ICTs have turned into an asset for educators and students. These seven principles state clearly that active learning happens through engagement, communication, collaboration, and effective feedback in learning process. To address these issues, Siemens and Dede (2008) divined that instructors must receive the tool and new approaches to instructing and learning to repeat the practice of these computerized locals. Devices like web journals, podcasts,

programming, social networking and videos alongside an incredible arrangement some more are all the part of the quick development of information communication technologies.

As web based learning clears over the U.S, primary and secondary schools search for the approaches to utilize technology to offer more customized ways to deal with instructing and learning. Improvement in technologies has made a rush in blended learning. What's more, organizations are utilizing learning management systems to verse and convey instructive material (Psycharis et al., 2013). These research show that blended learning upgrades communication and collaboration and draws in the students (Aslan et al., 2011). While blended learning and learning management systems have appeared to have many more positive points, researches have likewise uncovered that there are difficulties and boundaries to incorporating blended learning into instructing and learning (Comas-Quinn, 2011). Analysts likewise demonstrated that learning management systems as Moodle that enable instructors to grant individualized instruction convey e-assessment and give feedback permitting to self-regulation (Blanco and Ginovart, 2012).

2.1.1 Learning Management Systems and Moodle

Learning management system is a web-based learning stage that oversees and conveys instructive material. They offer organization faculty support, instructors, learners and learning process alongside course improvement evaluation and assessment (Psycharis et al., 2013). LMSs or virtual learning environment likewise enable learners to take apart in asynchronous discussion threads, synchronous chat rooms and different strategies for conveying learning (Ssekakubo et al., 2013). There

are many of LMSs accessible which are ATutor, WebCT, Moodle and LotfiVCL (Lotfi et al., 2013).

Moodle is an administration framework by Martin Dougiamas which is based on cooperative learning which enables instructors to make a student-centered environment. Moodle is depended on the constructivist and social constructivist way to deal with educating where students are urged to make teach (Janzen et al., 2012). These open source systems have amazing features. It enables an instructor to make or transfer assignments, quizzes, lessons and much more. These things can be time-limited, controlled by passcode etc. Moreover, Moodle allows the coordination of different resources like HTML documents and multimedia assets for example videos, audios, and graphics to transferred and shared (Brandl, 2005). Moodle is easy to use and it is using in over more than 200 countries and in 80 languages (Tiantong and Teemuangsai, 2013). Tiantong and Teemuangsai (2013) inspected that how a student group accomplished division utilized Moodle to decide whether improved student accomplished happened. The authors defended the examination believing that educating and studying needed to serve diverse groups of learners include critical-thinking abilities, collaboration and incorporate 21st century technology. Working with several members of groups the learners teamed up to achieve learning objectives and then share on individual tests to decide the performance level. A comparative report was directed by Despotović-Zrakić et al. (2012). In their investigation, the analysts desire to utilize Moodle to make an adaptive course and contrasted it with success of the non-adoptive course. The outcomes uncovered that instructors could adjust the course balancing teaching materials and exercise without knowing ant knowledge about programming. 95% of learners supported this method

and it enables them to get good evaluations and better outcomes. Moreover, the Moodle quiz tools enable instructors to give a response to diagnostic learner learning. For feedback to be successful, it must show up while the learning is thinking about the ideas to give outcomes for progress. Quiz modules in Moodle enable for a different discussion, fill the blanks, short answers, true-false and more (Brandl, 2005). Blanco and Ginovart (2012) directed an examination to investigate how Moodle quizzes take a part in e-evaluation. Students fulfill a sequence of e-assessments to evaluate their knowledge of idea in 2 math course in first-year of under-graduation. Outcome demonstrated that quizzes on Moodle are a suitable tool to notify students of their accomplishment since it gives a quick response without loading the teacher. In different orders, other than math could add as far as anyone is concerned with how a quiz module is a viable tool for Moodle.

2.1.2 Blended Learning Key to Self-regulation in Learning

Formative assessment has for quite some time been touted as an imperative practice which allows instructors to change their training and learners to self-regulate her/his learning and has turned out to be essential in view of its relation to learning adequacy. Self-regulated studying allows students to work towards managing learning and learning activities. Based on Black and William (2009), formative assessment is comprised 5 key approaches which are:

1. A tool to clear up and share the learning goals

2. Discussions in the classroom that make proof of learner understanding

3. This a tool that gives a response to improve the student forward

4. It allows learners to help mutually

5. And it is a tool to enact learners to self-regulate

The kind of exercise that an instructor offers should activate these methodologies. Furthermore, (Brookhart, 2011) have talked about the significance of convenient-centered response. ICTs possibly fill in as a successful developmental evaluation tool since feedback can be quick enabling learners to self-regulate. Heritage (2010) demonstrate in a report that formative evaluation can be utilized as a test yet more significantly it ought to be a tool that yields convenient information about learners` learning status condition with respect to a gap of knowledge. Wang (2011) utilized an exploratory outline technique to comprehend if a web-assisted formative evaluation would build self-regulation also student adequacy. In 4 middle school classes, the understudies got similar e-learning materials yet a large portion of the group got a web-based formative assessment before directing the ordinary web-based test. Conclusion uncovered that those learners who utilized the web-based assessment tool had good self-regulated studying behaviors and enhanced the inspiration towards learning. Thus, formative e-assessment can provide students with powerful feedback that empowering self-regulate and learning procedure engagement.

2.1.3 Collaboration in a Blended Learning Environment

School areas are utilizing technologies with the objective of making a student-centered significant studying condition. The analyst has contended that great practices empower active learning and that different Web 2.0 tools offer learners an opportunity to participate in the learning procedure. Technologies allow being active students in ways that are not at all like traditional education by advancing new and compelling approaches to impart and work together which happen in a blended learning (DePietro, 2013). Similarly, Delialioglu (2012) examined the learners' combat in blended learning venture based condition versus a lecture-based teaching

condition. Blended learning joins face to face teaching with the utilization of technology. Nemours reviews were conveyed to decide inspirational perspective and Delialioglu detailed those learners had a fundamentally higher engagement in the venture based blended learning environment than traditional blended learning. Delialioglu justified that coming research ought to be finished to examine teacher practices in blended learning conditions and their effects on learners engagement alongside how blended learning effects the daily practices of instructors. Also, Köse (2010) reviewed the suppositions about blended learning at secondary schools. The instructor and also learners both utilized blogs and podcast which are audio records to present recommendation, learning or information. These enable learners and instructors to share information and work together. Furthermore, blogs have appeared to be a useful tool for formative assessment. Köse uncovered that Web 2.0 tools assumed an essential part in learner engagement and their faith in their accomplishment.

Downing et al. (2014) examined the utilization of student-generated videos in a blended learning condition. College students revealed a superior comprehension of course material and a more noteworthy engagement with the utilization of technologies. Likewise, learners passed on an expanded chance to look at true issues that required collaboration and critical thinking. Additionally, Blended learning has appeared to be helpful for students. Those learners who are utilizing blended learning are more motivated and connected towards learning, particularly when the activity had true importance and in addition, customize instructional method and filled in as a tool to give viable feedback (Francis, 2012). Also, learners passed on adaptability and participation in learning including synchronize and asynchronies opportunity for

individualization. Blended learning follows the belief of Chickering (1996) which specify that the active learning happens through correspondence, engagement, useful feedback, assorted variety in instructing and learning and collaboration and together work. While blended learning has appeared to be useful and likewise has its difficulties and challenges.

2.2 Challenges of Blended Learning

There are a few issues have been raised with blended learning. Instructors and learner both have complained about the time commitment regarding pick up a comprehension of the technology. Those who are utilizing ICT require technical help and need to comprehend the apparent value of the technology for demeanors to be influenced (Sanchez and Hueros, 2010). Moreover, educators are worried about learners becoming too dependent on being told what to do or how to do it; accordingly, they cannot deal with learning. Also, La Roche and Flanigan (2013) decided after looking over 200 learners to evaluate its technology improves engagement that learners were separating in-class exercises by going on Facebook or watching videos on YouTube. Authors did not question that engagement can happen in blended learning condition, rather, they expressed that when the teacher comes arranged and introduces the opportunities for true problem solving utilizing technology then learner does not disengage.

Teacher's utilization of blended learning experience is explored by Comas-Quinn (2011). This method study involved both observations of participation and overview took after by three semi-structured interviews. The author states three repeated themes that are technical issues, the absence of online instruments to coordinate courses exercises and a deficiency of time as the principal factors in a portion of the

skills of instructors to successfully incorporate technologies in the curriculum. The authors recommended an expanded comprehension of these troubles that are confronting educators to grow more successful training programs. Likewise, Lin, Wang, and Lin (2012) announced comparable outcomes. A various contextual analysis utilizes three Chinese language arts instructors using observations and interviews indicated how a teaching method technology model worked. The investigation uncovered that teacher's ICT integration was influenced by numerous variables including ICT equipment, educational modules, leadership and most essential salaries to instructors. Authors proposed additional research to support the proof are conducted also to comprehend the instructor's personal characteristics of ICT integration.

2.2.1 Blended Learning and LMSs Assists in Teaching Pedagogy

Blended learning and learning management systems can possibly customize instructional method, engage the students and fill in as a tool for e-assessment to give viable response under the correct conditions. Researchers have proposed that learning management systems enable learners to participate in collaboration, enable instructors to individualize instructing and give compelling feedback when utilizing test modules on Moodle (Blanco and Ginovart, 2012; Despotović-Zrakić et al., 2012; Wang, 2011). Moreover, mixed learning energizes engagement and cooperation which is basic for better educating practice which is according to Chickering and Ehrmann (1996). (Downing et al., 2014; Köse, 2010) showed that learners engagement and together work expanded when learner cooperated to look to real-world issues. While there are a lot of benefits and there are also difficulties and challenges to mixed learning. Mixed learning needs instructors and learners to be skilled in the technologies. Likewise, time can be a restriction to utilizing technology

viable. Instructors require specialized help to utilize technology tools viable. However, instructors must comprehend that learning is more than picking up information about certain content that real learnedness happens when learners viably work together and participate all the while (Tu et al., 2012). Consequently, proceeded with inquiring about is fundamental to investigate how instructors who utilize blended learning see that it impact their teaching practices and help understudies in learning procedure. Instructors in the field may regard it essential to perceive the challenges and successes that how Moodle is utilized as a tool for formative assessment and also what part of Moodle help educators with their learning results.

2.2.2 Moodle as a Tool in Blended Learning

The utilization of learning management system like Moodle can help understudies in an active learning process, all while enhancing educators skills to oversee and convey 21st century educational material (Aslan et al., 2011; Blanco and Ginovart, 2012; Delialioglu, 2012; Tiantong and Teemuangsai, 2013). This examination gives awareness into how secondary teachers are utilizing blended learning to engage students and as instructors utilize Moodle as a tool for formative assessment to give a helpful response which permitting to learning regulation. Furthermore, the educator members disclosed their impression of how technology influences the individualization of instructing and learning. Additionally, instructors showed the challenges and successes in mixed learning enabling the area to comprehend if a moreover professional developer is expected to help educators in reliably utilizing technology and Moodle to its full scope of utilization. Overall, this examination enables institutes a comprehension of how blended learning can engage students and accommodate together work, communication, self-regulation, and individualization.

2.3 Researcher's Philosophical Stance

Progressions in technology have made an expansion in areas moving towards blended learning. Wang, (2011) and Delialioglu, (2012) shown that mixed learning situations hold genuine guarantee to improve student learning and enhance instructors teaching method. The present study shows that learning management systems enable instructors to give individualized directions, covey e-assessment and give response permitting to self-regulation. Likewise, research has demonstrated that blended learning improves correspondence, collaboration, and engagement of students. While blended learning and learning management systems have appeared to have numerous positive points. Researchers likewise uncovered there are challenges to integrating blended learning into instructing and adopting for example time, support and costs (Comas-Quinn, 2011). In the light of the groundwork of the connectivism and social constructivism learning theories, the researcher will look into how instructors utilize blended learning in their instruction and help learners in the learning process. In this research, the researcher will explore the successes and challenges of blended learning in view of the teacher and how Moodle is utilized as a tool for formative e-assessment in blended learning.

Chapter 3

METHODOLOGY

3.1 Introduction

Usually, an idea plunges into a precise philosophical position. A philosophical position is a set of ideas that explain a precise philosophy. This research which is about enhancing blended learning approach plunges into a positivism philosophical position.

The purpose of this research is to look into how instructors who utilize blended learning perceive that it impacts their instructing practices and help learners in the learning process. This research explores the teachers' perception of the success and challenges of blended learning including how Moodle is utilized as a tool for formative e-assessment. The outcome of this examination distinguishes the particular components of Moodle that help instructors in addressing students learning outcomes.

3.2 Research Method

Qualitative case study is lead to perceiving the teachers' experiences and point of view to utilizing ICTs to enhance instructing and learning. A qualitative study investigates an issue to understand a phenomenon. The literature review advocated the issue exists within different organizations. The relevant literature and theoretical framework reflect that learning happens when information is shared and build together (Paily, 2013; Siemens, 2008). ICT is a decent asset in accommodating

active learning, which incorporates collaboration, engagement, self-regulation and individualization and communication. Current researchers have uncovered that technology can enhance learners learning, yet additionally study is expected to explore instructor pedagogy (Al-Ani, 2013; Delialioglu, 2012).

3.2.1 Qualitative Research

In qualitative researches, the analyst is the essential tool for gathering the information from a set of a number of members. Information is gathering through interviews enabling to develop how members feel and behave towards utilizing these technologies and learning management system. For this specific research, a qualitative case study is utilized to investigate one specific program in an exceptional framework. Especially, this research meets the necessities for an instrumental case study since it inspected specific case namely teachers' use of blended learning. This research illustrates a specific problem and enables researchers to build up an association with the members enabling a profound understanding to be expanded (Creswell, 2012). Relatively, there are numerous examination designs that are not proper. A qualitative design like experimental design attempt to clarify the effect on an intervention, correlation outline indicates connection and overview design take a sample of a large population. In this examination, intervention is not going to present either demonstrating a connection between two or more than two factors clarified in a correlation study nor directing a survey study visible in (Köse, 2010; Delialioglu, 2012). Moreover, an overview may just uncover that what the instructors think versus what they do (Creswell, 2012), which Delialioglu calls for future research. What's more, studies do not permit members adaptability in their answers which enable researchers to collect a profound comprehension of the phenomenon.

Qualitative research is an effective approach that a researcher can explore human experiences in both personal and social context in order to know what affect these experiences (Gelling L, 2015). Qualitative researchers can use different tools and methodologies. Depending on the subject of research, a qualitative researcher can "adopt a grounded theory, phenomenological or ethnographic". How a researcher wants to collect data and analyses them needs to be considered in this method. Qualitative research explores constructed social and psychological experiences through a flexible and descriptive framework in order to understand how these experiences created and given meaning. The purpose of this method is to explore a specific subject according to the participants' experiences by collecting data from these participants through interviews. Another point to consider is the effect of participants' perceptions and the meaning that they attribute to their experiences regarding a research topic on the final findings in a research study because they can freely describe their experiences through interview or observations. In the context of qualitative research, knowledge is depended on knower and socially constructed. There are multiple interpretations on any subject because the realities are constructed by multiple cultural groups with different views. However, researchers usually use semi-structured in order to generate data.

3.3 Research Design

3.3.1 Case Study – Research Strategy

In accordance with Robson (2002) a case study is exploring certain concurrent phenomenon along with its real-life content by using a variable source of evidence. Van Wynsberghe and Khan (2007) examined various definitions of case studies which assign it as a strategy, method, research design or methodology. Researchers presume that although some definitions call case study as a method would point out

that case study is a process for gathering data, this is an approach that uses many research techniques.

In this research, a case study approach is used to look into blended learning which is utilized for courses and also to uncover teachers' perceptions of blended learning in EMU. Choosing a case study research method could be attributed to a number of reasons. Yin (2003) proposed that a case study is an effective method when our questions include "how" or "why" and also when researchers do not have control over the current phenomenon. The research should have some properties in order to be categorized as a case study. Case studies focus on specific and small sample size and analysing lots of data is not more effective in a case study research. Moreover, in the case of studies, researches provide highly detailed information and contextualized analysis of a sample such that readers can perceive an instance in action. Case studies are being used in a natural setting and researchers choose this strategy when they don't have control over events and behaviours. Working in a distinctive environment enable a researcher to develop focused hypothesizes and learns new lessons during data gathering and analysis. Case studies use different methods for collecting data such as interviews, questioners and participants' observations. Consequently, multiple data sources help researchers to find more accurate results.

3.3.2 A Case Study of Eastern Mediterranean University, North Cyprus (Departments of Computer Engineering)

The aim of this case study is to explore teaching methods and also to look into teachers' perception of blended learning'. The population of this research includes 14 teachers from the Departments of Computer Engineering at Eastern Mediterranean

University. The researcher investigated teachers' perceptions through a semi-structured interview on blended learning and teaching methods. In view of the use and application of teaching methods and techniques, instructors were interviewed to explain their method of teaching and techniques that are used by them in details and to describe the advantages and limitations of blended learning.

3.4 Data Collection Instrument

A researcher needs some instrument for collecting essential data. In this research, semi-structured interview (see Appendix C) as an instrument for collecting data about teacher's perception on blended learning in the Department of Computer Engineering courses. Furthermore, data was collected through interviews that enable to build how participants behave towards utilizing technology and learning management.

3.4.1 Semi-structured Interviews

Psychologically people are interested in the way that other individuals think and believe. For this reason, interviewing can be the most interesting way to collect data in a qualitative research. This qualitative collection method has been used in extensive literature focusing on different topic and issue. Even in a quantitative research, researchers can use the interview as a pilot study in order to collect data before designing a survey. The purpose of the qualitative research interview is to add or improve the concepts in the body of knowledge based on participants' experiences. During an interview, you can find out what other people think and feel about a specific subject that you are interested in. The information which interviewer wants to know is variable depending on research questions and disciplinary perspective of the study. Those researchers that examine prior hypotheses use different interview format of those produced hypotheses (DiCicco-Bloom and

Crabtree, 2006). Conducting an interview is not a simple task and interviewers need some specific skills such as "intensive listening", "note taking"," careful planning" and "sufficient preparation" (Qu and Dumay, 2011). Making decisions carefully about the process of an interview such as the number of interviewees, type of interview and data analysing must be considered by researchers.

Researchers must develop their own knowledge in order to gather useful data and to ask informed questions. Sometimes understanding the world of others during the conversation may be difficult because of the different worldview and cultural meaning of people. Furthermore, there are three categories of interviews including structured interview, unstructured and semi-structured interview. Qu and Dumay (2011) Noted that semi-structured interview consists of prepared questions with a defined theme that can evoke more elaborate responses. This method is a popular method because of flexibility, comprehensibility, and accessibility of this method. Moreover, revealing the significant and often hidden issue of human and their original treatment is the most important ability of semi-structured interview. Semi-structured interview organized based on predetermined open-ended questions and other probable questions which may interviewer ask during an interview.

3.4.2 When to use Semi-Structured Interviews

Semi-structured interviewing is best utilized when you will not get more opportunity to interview somebody and when you will send a few interviewers out into the field to gather information (Bernard, 1988). The semi-structured interview guide gives a reasonable arrangement of directions for interviewers and can give solid and identical qualitative information. Semi-structured interviews are regularly gone before by observational, unstructured and informal interviews keeping in mind the

end goal to enable the analysts to build up a sharp comprehension of the subject of interest fundamental for creating applicable and significant semi-structured inquiries.

3.4.3 Advantages of Semi-Structured Interviews

There are numerous of researchers that utilizing semi-structured interviews since inquiries can be set up in early,

- An interview permits the interviewers to be arranged and seems able to amid the interview.

- Semi-structured interviews additionally permit sources the flexibility to express their perspectives in their own words.

- Semi-structured interviews can give dependable, practically identical qualitative information.

- Face-to-face interviews can capture an interviewee's actual behaviors.

- The interviewer is the one that has control over the interview and can keep the interviewee focused and on track to completion.

- Interviews are useful to obtain detailed information about personal feelings, perceptions, and opinions and allow more detailed questions to be asked.

- Interviewer usually achieve a high response rate.

- Respondents' own words are recorded.

- Ambiguities can be clarified and incomplete answers followed up.

3.4.4 Disadvantages of Semi-Structured Interviews

The main disadvantages of the interviews are:

- An interview can be very time-consuming: setting up, interviewing, transcribing, analyzing, feedback, and reporting.

- As a result of timing and travel, F2F interviews can be expensive.

- Interviews can deliver biased responses.

3.5 Population

Teachers from the Departments of Computer Engineering courses are the participants of this research. There are 12 males and two females. One teacher is from Russia and the other is from Pakistan, the rest of them are from Turkey and Cyprus. Regarding their educational background 11 of them are Professors and 3 of them are PhD researchers.

Table 1: The Number of Participants

Departments and Participants	Number
Teachers from the Department of Computer Engineering	14

3.6 Data Collection Period

In order to proceed this research, the researcher has prepared a formal letter (see Appendix A) has been written to the head of Department of Computer and Instructional Technology Teacher Education in order to apply the semi-structured interview with teachers of the Departments of Computer Engineering courses in EMU. A copy of semi-structured interviews (see Appendix C) was attached to the head of the Department's consideration. Data collection period has lasted during Spring semester for approximately four months.

3.7 Validity and Reliability

With regard to this regarding reliability and validity, the researcher will use 'Synchronic reliability' type which means a standard way through which the semi-structured interviews will be assessed and if the researcher is using more than one research methods triangulation of these (e.g. the use of interviews with observations) can be applied. This can lead the researcher to imagine how multiple, but somehow

different, qualitative measures might simultaneously be true Silverman (2001). Whereas in this research, only semi-structured interviews will be used in order to gather data, therefore, triangulation cannot be the part of the methodology that will be used. For the semi-structured questions in order to sustain the reliability and validity, before applying it the researcher piloted the questions with 7 teachers at the Department of Computer Engineering, received their constructive feedback made necessary changes and then applied it in the formal interviews.

Researchers need to prove the authenticity of data and tools in a research which contains the reliability and validity of data in a research. The researcher points out that "credibility in quantitative research depends on instrument construction" while validity and reliability in a qualitative research refer to the ability and skills of a researcher.

3.8 Data Analysis

Considering semi-structured interviews (see Appendix C), the researcher used content analysis to analyze the data. Based on the research questions, categories and themes deducted in order to analyse teachers' perceptions. No sub categories or themes are deducted from the findings and the researcher tried to generalize, reflect teachers' perceptions on blended learning. Content analysis is one of the multiple research methods for analyzing data which are gathered from a specific interview. In this type of qualitative data analysis, gathered data is classified into categories and themes in order to have an easier comparison. The main purpose of the content analysis is to identify the properties of a large amount of textual data such as finding the repetition of most used keywords.

Based on the research questions (see page 6) the categories and themes are as follows:

Table 2: Perception of T1 on blended learning

SSIQ	Categories	Themes
Q1	Use it for sharing lectures.	Cooperation
Q2	There are no disadvantages of blended learning. Students can learn everything from internet.	Teachers' cooperation Constructivists approach
Q3	Both have advantage and dis advantage, if some students do not attend class then online learning is good for them. However, in class they can get all types of information.	Significance of online learning Significance of face to face learning
Q4	Learners can get good impact by this approach.	Advantages of blended learning
Q5	It should be implemented in all the departments, because this is technological era.	Application of blended learning and benefits of using technologies

In the table SSIQ stands for semi-structured interviews

Table 3: Perception of T2 on blended learning

SSIQ	Categories	Themes
Q1	We do not use it. We use projectors for presentation and computer in labs.	Traditional ways of teaching
Q2	Students can revise their lectures at home. Students are not under observation as like in classroom.	Advantages of blended learning Disadvantages of blended learning

SSIQ	Categories	Themes
Q3	Practical: providing tools and management.	How blended learning work out
Q4	Younger students are good to use technological tools and learn. Sometimes students get bored in classroom.	Application of blended learning
Q5	I will suggest bringing this approach in the department.	Reconstruction

Table 4: Perception of T3 on blended learning

SSIQ	Categories	Themes
Q1	It helps to share notes more effectively.	Teachers' collaboration, cooperative
Q2	Blended learning helps to disseminate appropriately all the required courses.	Advantages of blended learning
	However, blended learning may decrease learners' attention towards study in class.	Disadvantages of blended learning
Q3	Blended learning should be used as a complement to the traditional method.	Mixed approach
Q4	Blended learning has an impact on students' success in learning.	Motivation
Q5	It should be fully integrated for all courses as it stimulate students' excitement to learn.	Integration of blended learning into the curriculum

Table5: Perception of T4 on blended learning

SSIQ	Categories	Themes
Q1	Face to face learning is more efficient to learn. It attracts attention by using body language.	Effective use of body language
Q2	Video motion, global research.	Advantages of blended learning
	Feedback is not very effective and you cannot motivate students', also discipline problems.	Disadvantages of blended learning
Q3	In education we need to share effective tactics for sharing information.	New trends introduce for collaboration
Q4	I do not think that it have an influence.	Disadvantages of blended learning
Q5	This system can be available for each course.	Integration into curriculum

Table 6: Perception of T5 on blended learning

SSIQ	Categories	Themes
Q1	We do not use mainly blended learning but other technological tools.	
Q2	Students can use different material like video, audio, visual which includes blended learning.	Advantages of blended learning
	But it decreases the motivation towards active participation.	Disadvantages of blended learning
Q3	Students are not aware of use of blended	Unawareness of blended

	learning approach. Teachers have other applications to share all studies.	learning. Teachers' use of teaching method.
Q4	Students can get similar or better score in exams. Many good universities in world offer distance education.	Effective use of blended learning in examination, importance of distance education
Q5	Shift from instructors to self-student learning.	Constructivism

Table 7: Perception of T6 on blended learning

SSIQ	Categories	Themes
Q1	Use of few tools like sharing lectures and attendance.	Traditional system
Q2	Students can learn anything from internet. However, blended learning does not have regulations as classrooms have.	Advantages of blended learning Disadvantages of blended learning
Q3	Practically blended learning will advance the students' performance, practice reflective.	Significance of effective practice
Q4	Blended learning need more discipline.	Disadvantages of blended learning
Q5	I will suggest to teachers to use blended learning approach and plane their lectures in order to engage students.	Active participation

Table 8: Perception of T7 on blended learning

SSIQ	Categories	Themes
Q1	We do not use blended learning; we use traditional way of teaching.	Traditional methods
Q2	Blended learning helps in various ways like you can learn at home or on own pace. But you need time to prepare lessons by using blended learning approach.	Advantages of blended learning
Q3	If a teacher does not know then it will be time consuming.	Disadvantages of blended learning
Q4	Many people prefer to use internet to search information.	Benefits of using technology
Q5	Teachers should use blended learning to engage learners farther way to learn.	Effective use of approach in the blended learning process

Table 9: Perception of T8 on blended learning

SSIQ	Categories	Themes
Q1	Blended learning allows for feedback to be prepared harvesting all the benefits of blended learning in the physical enlivenment by using learning management system.	Significance of feedback in blended learning
Q2	Blended learning is very important for learners as feedback is the primary indication for their progress. But students might plagiarize each other work	Advantages of blended learning Disadvantages of blended

SSIQ		
	and in class this is not possible easily.	learning
Q3	In online learning no need to spend money on transportation you can use any device to get connected to the internet.	Benefits of online learning
Q4	Face to face learning helps you to get organized with your studies.	Traditional approach
Q5	Distance learning students can get similar score in exams compared to traditional students.	Benefits of distance education

Table 10: Perception of T9 on blended learning

SSIQ	Categories	Themes
Q1	It can make learning very enjoyable. Learning is not a serious process. Blended learning can increase in engagement in learning.	Benefits of blended learning Active participation
Q2	End of result will be to allow the students to have access to information from anywhere effectively enhance them to take learning into their own hands. You cannot monitor a less motivated student	Advantages of blended learning Constructivism through the use of blended learning approach Disadvantages of blended learning
Q3	It can make fun but it does not mean that learning if from one side but the combing of both methods.	Integration of blended learning

SSIQ	Categories	Themes
Q4	Through online learning you can still get a diploma as same as face to face students get.	Benefits to students from Distance Education
Q5	Face to face learning is more reflective as a real way of learning. But students can learn all the time anywhere by online learning approach.	Face to face versus online learning

Table 11: Perception of T10 on blended learning

SSIQ	Categories	Themes
Q1	With blended learning you can engage large number of students.	Benefits of using blended learning
Q2	It is cheaper; you can use any device to connect to internet.	Advantages of using blended application
Q3	But in class; teacher monitor your body language and ensure that you remain focused.	Disadvantages of blended learning
Q4	Online instructing is supposed to give you less work not more. However, still you need to be available in order to help learners.	Use of online learning
Q5	Online learning makes students more in control of their learning to pass their exams.	Responsibilities self-control

Table 12: Perception of T11 on blended learning

SSIQ	Categories	Themes
Q1	Yes we use it for sharing lectures and other information.	Collaboration
Q2	Students can partly work at own pace and still	Advantages of using

SSIQ		Themes
	have face to face education.	blended application
Q3	If an institution offer blended learning and that does not monitor effectively then quality of education will be at risk.	Disadvantages of using blended application
Q4	I will suggest that it should be implemented in order to improve the education quality at EMU.	Implementation into curriculum

Table 13: Perception of T12 on blended learning

SSIQ	Categories	Themes
Q1	We do not use online learning because we do not have a setup for it.	Perception of use of blended learning
Q2	For sharing lectures we use Moodle.	Advantages of using blended application
Q3	Classroom teaching is more effective; students can ask specific question and under observation.	Disadvantages of using blended application
Q4	Blended learning seems effective if someone use it regularly.	Using blended applications
Q5	It should be implemented in this department to understand different ways of studying methods.	Implementation of using blended application

Table 14: Perception of T13 on blended learning

SSIQ	Categories	Themes
Q1	We do not use blended learning, however we	Traditional approach

	use classroom activities.	
Q2	Learners are more attractive toward using computer for playing games and watching movies instead of study purpose.	Disadvantages of using blended applications
Q3	I think classroom lessons are more effective then online studies because classroom lecture face to face, under observation.	Traditional versus blended approach
Q4	Classroom lessons give specific knowledge about course while online method is not bounded to specific information.	Content knowledge
Q5	It should be implemented in a good regulation.	Implementation

Table 15: Perception of T14 on blended learning

SSIQ	Categories	Themes
Q1	We do not use blended learning specifically.	Perception on blended learning
Q2	For those who do not want to attend class hey can get notes from Moodle.	Advantages of using blended applications
Q3	However, it is costly, time consuming, need to have knowledge etc.	Disadvantages of using blended applications
Q5	Department need to provide a setup for this approach.	Application of blended learning

Chapter 4

FINDINGS AND ANALYSIS

The researcher had carried out semi-structured interviews with 14 instructors from the Department of Computer Engineering. Total there were 14 instructors at the department. In this chapter, the findings and analyses of the semi-structured interviews will be presented.

4.1 Teachers' Perceptions on Research Q 1

How do teachers use blended learning approach to assist students' in the learning process?

Blended learning upgrades communication and collaboration and draws in the students (Aslan et al., 2011). Likewise, (Downing et al., 2014; Köse, 2010) showed that learners engagement and together work expanded when learner cooperated to look to real-world issues. In this research, 2 teachers stated the significance of cooperation and collaboration in blended learning approach. T1: "We use it but only for sharing lectures in our course also if students miss some classes during the semester we share all lecture notes." T11: "Yes sometimes we use it for sharing notes and other information".

6 teachers stated that they are utilizing the traditional way of teaching. However, some of them are using a few other technological tools. There are some cons to blended learning. For instance, the type of blended learning can get worse the

motivation of your participants. Not every blended learning model is applicable to every age category. T5: "We do not use mainly blended learning approach in our course; however, we use few tools of technology in interaction with student learning." T7: "No we do not use blended learning approach in our courses but yes we use computer labs and few more tools for learning in classrooms." T13: "No totally we do not use blended learning we use only classroom environment because the classrooms are more effective than online study."

It enables an instructor to make or share assignments, quizzes, lessons and much more (Brandl, 2005). Hence, in this research 1 teacher stated the efficiently use of blended learning for sharing notes. T3: "Yes we do use blended learnıng for our courses. Because, it helps to share notes more effectively".

Learners' are usually in a classroom with the teachers, where they implement different strategies to keep students engaged. Similarly, in this research 1 teacher stated the efficiency of face to face learning in classrooms. T4: "I think that face-to-face training is more efficient to learn. Because you can attract attention by making movements that can affect your face."

Moodle enables instructors to grant individualized instruction to convey e-assessment and give feedback permitting to self-regulation. The Moodle quiz tools enable instructors to give a response to diagnostic learner learning. For feedback to be successful, it must show up while the learning is thinking about the ideas to give outcomes for progress (Blanco and Ginovart, 2012).

In this research, 1 teacher stated the significance of feedback in using blended learning approach.

> T8: "Blended training allows for feedback to be prepared from home, and then, harvesting all the benefits of blended learning, the trainer can provide it to learners in the physical environment, simply by using information from within the Learning Management System, in the forms of a report or automatically generated feedback."

Technologies allow being active students in ways that are not at all like traditional education by advancing new and compelling approaches to impart and work together which happen in a blended learning (DePietro, 2013). Similarly, in this research 2 teachers stated the benefits of using a blended learning approach that how it increases the engagement level of students. T9: "You simply cannot deny that adding an entertaining twist to the material is more likely to increase the engagement level of the learners." T10: "With blended learning, you are able to engage learners in large groups. First, you will give them an instruction and after that, put the students to work."

4.2 Teachers' Perceptions on Research Q 2

What are the advantages of using blended learning approach in Computer Engineering courses?

Blended learning offers flexibility in terms of availability (Paily, 2013). Likewise, in this research 1 teacher emphasized constructivist approach. T1: "I think there will be no disadvantage of blended learning because students can learn everything from the internet."

Learning management system is a web-based learning stage that oversees and conveys instructive material. They offer organization faculty support, instructors, learners and learning process alongside course improvement evaluation and assessment (Psycharis et al., 2013). But, it might be more difficult if students are not physically present in a classroom in order to learn. In the same vein, in this research 2 teachers stated the advantages and disadvantages of using blended learning approach. T12: "We held all the classes in the classroom. In the classroom, students are under observation by instructors."

> T2: "if some students miss a few lectures then they will have an opportunity to revise that all lectures on the computer at home. We share those lecture on Moodle. However, students are not in under observation while they are not in classrooms. Also, blended learning doesn't have regulations as compared in classrooms. A learner can divert any time from studies to log in to Facebook nowadays."

It enables an instructor to make or share assignments, quizzes, lessons and much more. Formative e-assessment facilitated student evaluations with all online testing and reporting. Automatic grading offered by many learning management systems, which a great relief for the teacher (Brandl, 2015).

In this research, 2 teachers stated the pros and cons of the use of blended learning approach

> T3: "There is usually a limited time during the lecture period to pass on all information intended and to give all details of the lecture notes; blended learning approach helps to disseminate appropriately all requirement of the course. But, the traditional method of learning ensures that students pay attention to studies, the use of blended learning reduces this power."
>
> T5: "To understand student mental level and to make easy materials for learners to understand it so blended learning will help the students in a faster way. On another hand, sometimes blended learning approach decrease the motivation toward participates.

In this research, 2 teachers stated that instructors need more time to prepare lectures and upload those lectures to Moodle. Considering that blended learning is a time-consuming approach. T14: "For those who do not want to attend class they can get notes from the website. However, blended learning is time-taking approach and needs to know this approach etc."

> T7: "blended learning helps in learning in various ways like time is compulsory for attending classroom you need to be on time so blended learning give a chance to the information at home and have their own time. There are also disadvantages of blended learning approach as you will need time to prepare courses also other tools which require in blended learning. If an instructor doesn't know how to prepare lessons, then blended learning will be time taking approach."

Blended learning has appeared to be helpful for students. Those learners who are using blended learning are more motivated towards learning, particularly when the activity had true importance and in addition, to customize instructional method and filled in as a tool to give viable feedback (Francis, 2012). Likewise, in this research 1 teacher stated significance of feedback in blended learning. However, if a student is using a computer and not being watched by an instructor, they may copy assignments form other. T8: "If your students are using a computer and not being watched by you at all times, they may plagiarize essays and other assignments. It can be easier to cheat if you are taking an online exam."

In this research 2 teachers stated the advantages and disadvantages of blended learning. Since the internet is available everywhere, students can connect their devices anywhere and can learn without traveling to universities. But, a student is not physically in front of teachers, it might be hard to remain focused. T8: "No time wasted on commuting: with online learning, there's no need to spend money on

transportation". T10: "When students are learning from a teacher in a classroom, they can monitor your body language to ensure you remain focused".

1 teacher stated about the quality of education. Likewise, if a university management or instructors does not utilize blended learning successfully then it might be a disadvantage for learners.

> T11: "Participants can partly work at own pace and still have a face-to-face education. If you're faster than the other participants, you don't have to wait for them. But, Learning institutions are like online education if they cannot effectively monitor the day to day activities of their students.

1 teacher stated the cons of computers in blended learning. Since, students are more attractive toward doing other stuff rather than learning while using a computer. T13: "Students are more attracts toward using computer for watching movies and mobile phone for social interaction. While, in the classroom; students are more attentive toward study only, because of the environment provided in the classroom."

In this research 1 teacher stated the benefits of online learning and classroom learning. Subsequently, for those who cannot attend classes, they can repeat their lectures at home. Nevertheless, textbooks can be used to underline important paragraphs. Moreover, additional notes are given in class most of the time to students directly. T1: "In comparison, both have its own terms if some learners do not want to attend the classrooms then the online study is good for them. But, in class, they can get all type of information specific to course."

Researchers likewise uncovered there are challenges to integrating blended learning into instructing and adopting for example time, support and costs (Comas-Quinn,

2011). Furthermore, Organizations are utilizing learning management systems to verse and convey instructive material (Psycharis et al., 2013).

In this research 2 teachers outlined idea about blended learning. T2: "Yes it is practical, by providing tools and management." T12: "Blended learning is effective if someone uses it with regular way."

(Downing et al., 2014; Köse, 2010) Blended learning could improve the quality of teaching and learning as it supports the face-to-face teaching approaches.

In this research 2 teachers expressed his views and stated that blended learning should be utilized as parallel to the traditional method of teaching. T3: "Blended learning cannot replace the traditional learning, so although it is practically useful, it should rather be used as a complement of the traditional method." T9: "The combination of the two, by using different and more interactive material (like presentations that are not just pages filled with bullet-points)."

In this research 1 teacher briefed the effective ways of sharing data. As the new epistemology, connectivism shows that powerful learning happens when information is shared successfully and manipulated to make new learning (Del Moral, Cernea, and Villalustre, 2013). Students can also learn through a variety of activities that apply to many different learning styles. T4: "It can be practical because in the education we need to try different tactics for sharing information."

In this research 1 instructor stated that most of the students are not knowledgeable about the utilization of blended learning. In this way, teachers are using additional application for distributing lectures.

> T5: "Practically students are not aware of blended learning approaches hence teachers provide some specific instruction through online activities. Likewise, we have some types of models and other applications that allow students with teachers for sharing all studies."

Blended learning energizes engagement and cooperation which is basic for better educating practice which is according to Chickering and Ehrmann (1996). Furthermore, Wang, (2011) and Delialioglu, (2012) shown that mixed learning situations hold genuine guarantee to improve student learning. Similarly, in this research 1 teacher stated the benefits of effective practice while using blended learning approach. T6: "Practically it will advance the students' performance to allow great and thoughtful reflection and improve personal learning."

Forget about attending classes and sitting in an uncomfortable chair for all day. All lectures are provided through online platforms, so it will easily to access them from home. Consequently, 1 teacher stated the pros of utilizing technology. T7: "Many people prefer to consume content using the internet rather than the other ways."

Students do not need to consume hours to take a new course including talking to colleagues, etc. As in this research, 1 teacher stated the advantages of online learning. T10: "Online teaching is supposed to give you less work, not more. However, it is still necessary to be available in order to help your students in case they need."

An instructor can examine the improvement of students' performance in class because of real human interaction. Students can put questions of teachers and they can get answers at the same time in class. In the same vein, in this research 2 teachers stated the pros of face to face teaching methods. T13: "Classroom studies give specific knowledge about their courses. While in the online study, they are not bounded to specific information which is also good for students but sometimes they get diverted in their goals." T14: "Classroom is more effective instead of online because students-teacher's interaction creates an environment for learning."

4.3 Teachers' Perceptions on Research Q 3

From the teachers' point of view, what are the challenges of using blended learning approach in teaching and learning?

The utilization of learning management system like Moodle can help students in an active learning process, all while enhancing educator's skills to oversee and convey 21st century educational material (Aslan et al., 2011; Blanco and Ginovart, 2012; Delialioglu, 2012; Tiantong and Teemuangsai, 2013). Similarly, in this research 1 teacher stated the benefits of blended learning. T1: "Under my observation learner can get very good impact they can find more and more information about their courses."

The development in technologies creates interest towards study and improve learner's abilities (Aslan et al., 2011; Blanco and Ginovart, 2012; Delialioglu, 2012; Tiantong and Teemuangsai, 2013). In this research, 1 teacher stated the application of using blended learning approach.

> T2: "For younger, it is good to understand technological tools and learn how to use it. Also, it gives interest to the study. In the classroom, students get very bored because they are tightly regulated in front of a teacher."

Köse uncovered that Web 2.0 tools assumed an essential part in learner engagement and their faith in their accomplishment. Ultimately, the technology works great when it assists the real substance of education and facilitates instructors in helping students incorporate skills.

In this research 1 teacher stated the motivation behind the use of blended learning approach. T3: "Blended learning method has had an impact on the success of students learning because students who miss classes are still able to catch up with the notes."

The outcomes uncovered that instructors could adjust the course balancing teaching materials and exercise without knowing the knowledge about programming. 95% of learners supported this method and it enables them to get good evaluations and better outcomes (Despotović-Zrakić et al, 2012). Identically, based on research 2 teachers stated the effective use of blended learning and the importance of distance education. T8: "Distance learners' examination results have shown that distance learners can get better scores on tests because they study more..." T5: "I think students can also get similar or maybe better scores in examinations to compare to the traditional and many good universities in the world are offering distance education."

Those students, who are utilizing blended learning approach, they need to be more careful with their studies, it means that students need to be self-motivated and check regular updates on the class portal. Same as in this research 1 teacher stated the

disadvantage of blended learning while utilizing blended learning approach. T6: "This type of learning needs more discipline. Because no one teacher is to watch you so you will need to do more study and check your self your own."

Online learning supports have acknowledged many problems and have endeavored to solve them by including regular quizzes or polls that need the students to pay attention, but the fact persists that there are more diversions for the learner in an online learning environment than in an actual classroom (Black and William 2009). T8: "Face to face learning helps you get organized with your studies because you need to be somewhere at a specific time & date. Also, you get to interact with the trainer and the other students." T13: "Classroom studies give specific knowledge about their courses. While in an online study, they are not bounded to specific information which is also good for students but sometimes they get diverted in their goals."

Learners can get undergraduate, postgraduate and professional level certificates through distance learning as an on-campus students get. Institutes assure that their distance learning education is the same good quality as campus-based education provides (Aslan et al., 2011). Identically, based on this research 2 teachers stated fosters of distance education. T9: "With online learning, you can still get a diploma or a certificate. Yes, that's right. And that certificate can be the same as the one given to people who take face to face classes."

> T10: "Online learning makes students more in control of their learning path If they want to pass the course or exam given, they need to take time to study, putting them in charge of their own learning process (instead of the teacher) and therefore making them more self-disciplined."

Learning management system is a web-based learning stage that oversees and conveys instructive material for all courses. They offer organization faculty support, instructors, learners and learning process alongside course improvement evaluation and assessment (Psycharis et al., 2013). Subsequently, 3 instructors emphasized their perception about utilizing blende learning in other courses as well. T2: "Yes it can be used in all courses." T4: "Why not, this system is available for each course." T14: "Yes possibly".

Wang, (2011) and Delialioglu, (2012) shown that progressions in technology have made an expansion in areas moving towards blended learning. Likewise, research has demonstrated that blended learning improves correspondence, collaboration, and engagement of students. Hence, in present research 2 teachers shared their opinion and stated the benefits of utilizing blended learning approach in courses. T1: "In my opinion, this method should be implemented in every department because this era is technological. We just need to know about uses of technology." T2: "I will suggest to administration to bring this in the Department."

The reconciliation of information communication technologies has made a move from traditional epistemology to a new epistemology in view of active learning and a shared creation of knowledge (Dede, 2008). Hence, in this research 4 instructors suggested the reconstruction of blended learning approach into the curriculum to improve education quality. T12: "I will suggest to the administration that this method should be implementing in the Department of Computer Engineering to understand different ways of studying methods." T11: "I will suggest that it should implement to improve the quality of education at EMU." T3: "It should be fully integrated for

all courses and more quizzes should be performed online to prepare students for examinations and stimulate their excitement to learn the course."

Chickering (1996) stated clearly that active learning happens through engagement, communication, collaboration, and effective feedback in instructing and leaning. The previous literature stated that there are many factors that are leading to advancing student's engagement in the learning process. Thus, this research explores the factors advancing student's engagement in learning processes via their participation in blended learning as well as lecturer students' relationship. Furthermore, Moore (2005) has proposed that blended learning is relevant to self-regulation and self-directed learning which are appeared of three linked elements: interactive, structure, and autonomy. Self-directed learning is a way where a learner supposes and decides on the learning topic based on his/her own concern and talent. Learners can determine the aims, select learning methods, choose learning resources, and assist in their own learning. Correspondingly, in this research 3 instructors suggested the constructivism approach. T5: "I will suggest that it must be shift from instructors to self-students learning. It will encourage interaction between students and teachers." T7: "I will suggest that teachers should use blended learning to engage students in a faster way to learn and get information. They should prepare their lessons presentations question-answer sessions etc."

> T6: "I will suggest to teachers to use blended learning approaches to plan a lecture that will be very interested and engage students. We need to prepare topics using computer and present through the online medium and some classroom sessions also to discuss those or present those topics."

Comas-Quinn (2011) the absence of online instruments to coordinate courses exercises and a deficiency of time as the principle factors in a portion of the skills of

instructors to successfully incorporate technologies in the curriculum. Likewise, in present research 1 teacher expresses their view about the application of blended learning approach. T14: "I will suggest to the department that they provide a setup for blended learning approach."

Chapter 5

DISCUSSION, CONCLUSION AND SUGGESTIONS

5.1 Discussion

According to the findings based on the discussion with teachers, the researcher found that utilizing blended learning approach in their courses can effectively sustain learners to engage in more self-direct learning. Based on, the analysis of Akyuz and Samsa (2009) and Picciano (2009), blended learning need suitable learning activities and environment. It is not only how we need to blend face-to-face classrooms with the use of technology, though the content of the course itself should foster to be life-long learners. Hence, learners need to improve their self-directing learning abilities in order to reach the aim of the course. In fact, online learning is just a tool to motivate learners to learn additionally and to prepare educational environment extra suitable for students and instructors to accomplish their aims. So, online learning basically delivers as a digital classroom which gathers all instructing and learning material also students' whole works. Thus, students can view their assignments, lectures, and their fellows and instructors' reviews. Many teachers find these components very practical.

In this research, the researcher found that five teachers stated that they utilize blended learning approach in Computer Engineering courses because through blended learning approach they can share their notes, lecture, and other information very effectively and they collaborate with students comfortably via Moodle and other

tools. Furthermore, instructors of Computer Engineering courses reported that blended learning allows them to give feedback effectively to learners and can increase the engagement level of the learners in learning process using blended learning tools.

In this research, six teachers do not use specially blended learning approach in their courses. They believe in the traditional way of teaching but they certainly utilize few techniques to share information regarding their courses, such as students' portal. Similarly, one teacher T4 stated that "I think that face-to-face training is more efficient to learn. Because you can attract attention by making movements that can affect your face."

Furthermore, students work at their own pace to collect data to accomplish their assignment and projects and they need instant feedback from fellows and teachers. Hence, Moodle provides functions for all learners to enable instant feedback that can be approached by anyone at any time from any place. Moreover, this feature advances the students' communication abilities in the digital world, these abilities are not bounded to face-to-face encounters. Learning management system is a web-based learning stage that oversees and conveys instructive material. They offer organization faculty support, instructors, learners and learning process alongside course improvement evaluation and assessment (Psycharis et al., 2013).

According to the findings of this research, there are more advantages than the disadvantages of using blended learning approach. Though, one instructor stated in his semi-structured interview that "I think there will be no disadvantage of blended learning because students can learn everything from the internet." Furthermore, it is

found that online learning is cheaper; students can learn from internet and they can revise all the lectures at home, also they can get certificates at home through e-learning, rather than going to school, buying books and travel expenses for attending attend classes. From another point of view, teachers reported that students are not under observation at home so they can copy their assignment from others as well as students sometimes can get diverted from their studies to watch movies and play games on the computer when they are unattended. While at classroom; students are more under observation by their instructors. As per instructor reported that "Classroom is more effective instead of online because students-teachers interaction creates an environment for learning." Also, blended learning needs more time to prepare their lessons and this is compulsory for teachers and students to have knowledge about uses of blended learning applications.

In closing, teachers perceived that in the 21st century the blended learning approach influences teaching and learning by helping learners to collaborate, reflect, self-discipline as well as actively engage in their studies. The utilization of blended learning tools also enables instructors to individualize their teaching and create a student-centered environment. Moreover, administration and management need to provide the environment and tools for integrating blended learning approach into the curriculum effectively. Similarly, according to the findings in this research most of the teachers suggested in their semi-structured interviews that blended learning should be implemented and integrated into Computer Engineering courses and other departments at Easter Mediterranean University to improve the quality of education.

5.2 Conclusion

According to the first research question, this research aimed to examine the way instructors utilize a blended learning approach in their courses, their practices and help students in their learning processes. The research findings proved that students prefer a constructivist approach rather than the traditional way of learning and teaching. That is to say, they prefer to use a blended learning approach. Regarding the second research question, most teachers supported the view that blended learning approach is more advantageous than being disadvantageous like time-consuming, cheaper, easy to access, increases students' active participation and so forth.

Finally, for the last research question, ofcourse like the advantages there are disadvantages of using blended learning approach. For instance, students cannot be under observation all the time, might decrease motivation in some students and there is no face to face interaction. To sum up, blended learning approach can be integrated into teachers' teaching approach with the traditional way of teaching. It also depends on the administration and management as emphasized earlier to integrate blended learning into the curriculum.

5.3 Suggestion

- Blended learning approach can be used by other departments at Eastern Mediterranean University.
- Teachers can go through in-service training before using a Blended Learning Approach.
- The administration and management can follow up the latest trends before the application of Blended Learning.

- After careful examination by the management and administration, blended learning can be integrated into the courses/programs at the universities.

- Yet, to utilize blended learning more suitable and effectively sustaining learning in each course, researchers and instructors require additional comprehensive research in each topic area and need to do more qualitative and quantitative based research. More educators need to get sophisticated in research.

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APPENDICES

Appendix A: Research Ethics Eligibility Application Form

Eastern Mediterranean University
Research and Publication Ethics Board
bayek@emu.edu.tr / 3806

Research Ethics Eligibility Application Form

NAME OF RESEARCH
A Case Study of Teachers' Perceptions on Blended Learning Approach in Computer Engineering Courses at Eastern Mediterranean University
NATURE OF RESEARCH:
☑ Postgraduate Thesis
☐ Ph.D. Dissertation
☐ Individual Research Project
☐ Other (Please describe):...
MAIN RESEARCHER:
Name-Surname: Numan Jan
Title: - Mr.
Position: Student
Place of duty (Division s/he is working at): -
Contact Information:
Postal address:- Famagusta
Phone: 6302390.   GSM: +923139919303   Fax:....-......
E-mail: numanjan1992@gmail.com
OTHER RESEARCHERS:

Name-Surname	Title	Position	Division	Phone/e-mail	Signature
Bengi Sonyel	Asst.Prof.Dr	Supervisor	Education	2390	

Data Collection Dates:
Start Date: 01.05.18
End Date: 01.06.18

Places, Institutions and Organizations From Which Data Collection is Planned:

1. Departments of Computer Engineering at Eastern Mediterranean University.

2. ……………………………………………………………………………………..

3. ……………………………………………………………………………………..

4. ……………………………………………………………………………………..

5. ……………………………………………………………………………………..

Application Status:
☐ New application
☑ Repeat Application (revision)
    ☐   Amendment
    ☐   Follow-up of a previously approved project

Summary of the research:

(It should not be less than 500 and more than 2000 words excluding "Selected References" section. Please explain briefly and in simplest way possible bearing in mind it will be read by people who are not experts in the field. Sufficient information should be provided for each heading and none of the spaces should be left blank.)

Topic:

A Case Study of Teachers' Perceptions on Blended Learning Approach in Computer Engineering Courses at Eastern Mediterranean University

Objective:

The purpose of this research is to look into teachers' thoughts about using blended learning Computer Engineering courses. The findings from this research will show teachers' specific reasons of using blended learning and other various technology tools that assist them while teaching. As we all know, today we are living in the computers and information's era. Therefore, computers have significantly affected humans' life style and condition in every aspect. It also had a vast influence on education. What is more, ICT in education is an area which is in turmoil and in which many participants play a role. Forces that operate on the micro- and meso-level of the education system (that is at schools and in classrooms) may be influential in bringing about changes that are beyond the direct control of ministries of education. Therefore, it is important for educational decision making to periodically assess the actual situation of ICT in educational practice (Pelgrum, 2001)

The technology has given us lots of tools and facilities which make the teaching and learning process more effective and more convenient. By the development of portable and mobile devices, education has transferred beyond the walls of the schools. Hence, learners sometime do not necessarily need to be in classes physically.

The use of Blended Learning (BL) in higher education has increased significantly during the past decade. This includes an investigation of how to best train the teachers in BL pedagogy (the method and practice of teaching, especially as an academic subject or theoretical concept). Perhaps the most common 'blend' discussed in research publications concerns the mixing of e-learning and traditional forms of learning.

Research questions:

The researcher aims to investigate the following questions:
1. How do teachers use blended learning approach to assist students' in the learning process?
2. What are the advantages of using blended learning approach in Computer Engineering courses?
3. From the teachers' point of view, what are the challenges of using blended learning approach in teaching and learning?

Scope:

The scope of this research is to be able to adopt blended learning approach into teachers' teaching strategies. As we all live in the world of technology teachers as mediators of education need to follow up the latest technology therefore it is significant to underline the use and application 'in real life settings' (such as classroom environment) of blended learning approach.

Method (Place where the study will be conducted, sample, inclusion/exclusion criteria, scales, information regarding the reliability and validity of the scales, ways of process, analysis and assessment, etc.):

This research study is planning to be carried out in the Department Computer Engineering courses at Eastern Mediterranean University. This research primarily employs a qualitative approach that utilizes teachers about their experiences in teaching by using blended learning approach. As a sample all teachers who teach Computer Engineering courses are going to be taken as a sample in total 18 teachers. Therefore, it is going to be an in depth case study. Various factors such as age, sex, race, experience factors will not be taken into consideration as the sample is too small. The semi-structured interview questions are (see appendix C) formulated based on the research questions by the researcher. Concerning the reliability and validity of the semi-structured interview questions, teachers' perceptions 'on the application of blended learning' is going be looked into by piloting nine out of eighteen of the semi-structured questions with teachers. As a positivist researcher, the researcher here is interested to find out where the reality is imperfectly represented in order to get a truer or more complete picture of how things stand. With regard to this regarding reliability and validity, the researcher will use 'Synchronic reliability' type which means a standard way through which the semi-structured interviews will be assessed and if the researcher is using more than one research methods triangulation of these (e.g. the use of interviews with observations) can be applied. This can lead the researcher to imagine how multiple, but somehow different, qualitative measures might simultaneously be true Silverman (2001). Whereas, in this research only semi-structured interviews will be used in order to gather data therefore triangulation cannot be the part of methodology that will be used.

Additionally, due to small sample group, it might be the handicap and limitation in this research. The analyses gathered form the teachers will be analyzed by using content analysis. Qualitative Research is primarily exploratory research and is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research. Qualitative Research is also used to uncover trends in thought and opinions, and dive deeper into the problem. Qualitative data collection methods vary using unstructured or semi-structured techniques. The sample size is typically small, and respondents are selected to fulfill a given quota Lewis (2015).

Selected References*:

Lewis,. S. Qualitative Inquiry and Research Design: Choosing Among Five Approaches. Volume: 16 issue: 4, page(s): 473-475 Article first published

online: April 2, 2015; Issue published: July 1, 2015

Pelgrum,. W.J. Obstacles to the integration of ICT in education: results from a worldwide educational assessment. Computers & Education. Volume 37, Issue 2, September 2001, Pages 163-178.
Silverman,. D. (2001). Interpreting qualitative Data. Sage publications Inc, London.

Possible implications of this study for the field or society (maximum 1 paragraph):

Blended learning instruction combines two learning environments: traditional face-to-face instruction and online instruction. Most research concerning blended instruction has been conducted at the university level. Likewise, this research will be conducted at the university with the teachers' perceptions only. As a further research it can be done with students as well so that both of their perceptions will be examined to see the benefits and limitations of using blended learning approach in a classroom setting.

(*) *Original and Turkish references for the scales to be used in the study must be provided.*

Does the research require to provide biased/wrong information, or keep the aim of the research fully confidential in any way?

☐ Yes   ☑ No

If yes, please explain: See the consent form (Appendix B)

……………………………………………………………………………………………………

……………………………………………………………………………………………………

………………

Does the research contain question that may threaten the physical and mental wellbeing of the participants?

☐ Yes   ☑ No

If yes, please explain: See the consent form (Appendix B)

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………

Are the participants' personal rights and confidential information protected*?

☑ Yes   ☐ No

(*)**Important Warning:** *It is seen as unnecessary to take/record the identity information of the participants in order to establish friendly responses in many survey/scale studies working with groups. If your study possesses this quality, the Voluntary Participation Form (the form where name surname and signature is compulsory in order to take informed consent) should be distributed separately prior to group implementation and made sure that it is read and signed and collected back; following this procedure, voluntary participant(s) should be given the questionnaire(s) and asked to fill in*

anonymously. Thus, once the questionnaire(s) are collected, the anonymity would be enabled; in other words, it would be ensured that what responses were given by which participant from the group would be unknown. Also, pseudonyms can be taken in case of the need to contact the participants again.

I have read and understood the warning above.
☑ Yes   ☐ No

Are underaged individuals, limited or disabled people participating in the research?
☐ Yes   ☑ No

Is clear and understandable explanation regarding the nature of the research being provided for the participants? Yes
Please explain: Yes, a descriptive text has been added on the semi-structured interviews.
………………………………………….........………………..
....
....

What kind of precautions have been taken against the threats that would spoil the voluntary participation and abuse the participants?
Please explain: See the consent form (Appendix B)……………….....................................
…………………………………………………………….......................................
....

Are the participation and removal conditions of the volunteers stated clearly? Yes
Please explain: See the consent form (Appendix B)………..
………………………………………………………….......................................
....

It is compulsory to provide responses for the last three questions above and attach the Voluntary Participation Form for which a sample is provided on page 7 of the Form. Child/Teenager Form should be created in addition to the Parent/Guardian Form for studies where participants are under the age of 18. Is a Voluntary Participation Form of this quality attached to the application folder?
☑ Yes

Expected number of participants: …18 teachers (all teachers who teach Computer Engineering Course ……………….

Please mark the options that best describe the participants (more than one option can be marked).
☐   Pre-School Children
☐   Primary School Children
☐   High School Students
☐   University Students
☐   Children
☐   Adults
☐   Teenagers

☐	Elderly
☐	Men
☐	Women
☐	Employees in an Institution
☐	Unemployed
☐	Mentally Disabled Individuals
☐	Physically Disabled Individuals
☐	Prisoners and/or Convicted
☑	Other (please specify): Teachers

Please mark the practices that would be used in the study.
☑ Interview
☐ Questionnaire/Scale*
☐ Observation
    ☐ Implementing tests over computer setting
    ☐ Video record
☑ Audio record
    ☐ Other (please specify):
……………………………………………………………………………………………

(*) **IMPORTANT WARNING**: *If the questionnaire/scale or the interview form involves practices or audio or video stimulants, a sample of each (audio or videos in CD format) must be added to the application folder. It is compulsory to add also the Foreign language scales planned to be adapted.*

RESEARCH BUDGET:

☑ There are no expenses in the research.

☐ There are expenses in the research and they are shown in the table below.

If there are research expenses, please specify how they will be funded:

☐ They will be funded by the Researcher/Researchers.

☐ Project support is/will be taken from an Official Institution.
(Please attach the Written Contract Proving that there is no conflict of interest to the Application Form.)

Please describe the Institution Information and scope of support:

☐☐ Project Support will be taken from Private Sector.
(Please attach the Written Contract Proving that there is no conflict of interest to the Application Form.)

Please describe Company/Firm information and scope of support:

Please describe Research Expenses:

Expenditure Items	Sum*

Total Budget:	
*Please attach Pro forma Invoice to the Application Form.	

I declare that I have read, understood the Eastern Mediterranean University Research and Publication Ethics Board Application Guide and information provided above is correct.

Main Researcher's,

Name: Numan
Surname: Jan
Date: 13.04.18

Signature:

Appendix B: Consent Form

Dear Teachers,
The purpose of this research is to look into teachers' perception on blended learning in Computer Engineering courses. The findings from this research will show specific reasons of using blended learning and other various technology tools that assist you as reflective teachers while teaching.

The semi-structured interviews consist of six questions. It will take approximately 30 minutes to answer all the questions. A tape recorder will be used to record the semi-structured interviews which will be held with the participants. Participating for this research study is on voluntary basis and any time you can withdraw from it. If you agree to participate the questionnaire, please fill in and sign the form below.

Numan Jan   Asst.Prof.Dr. Bengi Sonyel
Msc. Student   Supervisor
Msc. Program in Information and   Department of Educational
Sciences
Communication Technologies in Education   Faculty of Education
Department of Computer and Instructional   bengi.sonyel@emu.edu.tr
Technology Teacher Education
Eastern Mediterranean University
6302390
Faculty of Education
Eastern Mediterranean University
+923139919303
numanjan1992@gmail.com

I would like to state that I accept to participate into this research and answer the questions and share my knowledge with the researcher.

Participant

Name and Surname: ....

Signature: ....

Date: ..../......................../......................

Appendix C: Semi-Structured Interview Questions

Q1. Do you use blended learning approach in your Computer Networks and Communication course? Why/Why not?

Q2. What are the advantages and disadvantages of using blended learning approach?

Q3. Is it practical to use blended learning approach compared to traditional approaches? Why/why not?

Q4. According to your observations, does the use of blended learning approach have an impact on the success of students learning? Why/Why not?

Q5. Can teachers use blended learning in all other courses?

Q6. Further suggestions for integrating blended learning approach into teaching, administration, and teacher training programs.