Perceptions of Students About the Use of Blended Learning in Computer Literacy Courses

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ABSTRACT

The technology in our lives is changing rapidly every day. In the field of technology,

our life changes after every step taken by humanity and education cannot be excluded.

In addition to traditional, face-to-face education, we have different learning models

today. This study was carried out in Eastern Mediterranean University, "Hukuk için

Bilgisayar" (ITEC190) and "Bilgisayara Giris" (ITEC115) courses in the 2019-2020

Spring semester. These courses were given as blended learning and students'

perceptions about the use of blended learning were examined. The data were collected

using a modified questionnaire prepared by Gedik (2010).

Findings showed that students' perceptions about the application of blended learning

were positive in these lessons. In addition, students' views on the classroom

atmosphere can be positively defined. However, due to the covid-19 outbreak, students

had chance to attend classes physically for only 4 weeks. As a result, some students

declared that they felt lonely. As a result, some students declared that they felt lonely.

Moreover, the results revealed that there was a statistically significant difference in

participants' perceptions according to their gender. However, findings show that there

is no significant difference between the perceptions of the participants according to the

number of blended courses they have taken before.

Keywords: Blended Learning, Skype For Business, Moodle, Students' Perception.

iii

Teknoloji her geçen gün hızla büyüyor. İnsanlığın teknoloji alanında attığı her adımdan sonra hayatımız değişiyor, eğitim de öyle. Geleneksel yüz yüze eğitimden, bugün farklı öğrenme modellerine sahibiz. Bu çalışma 2019-2020 Bahar döneminde Doğu Akdeniz Üniversitesi, Hukuk İçin Bilgisayar (ITEC190) ve Bilgisayara Giriş (ITEC115) derslerinde yürütülmüştür. Bu dersler karma öğrenme şeklinde verilmiştir.

Bu çalışmada öğrencilerin bilgisayar okuryazarlığı derslerinde karma öğrenmenin kullanımına ilişkin algıları incelenmiştir. Bu çalışmanın araştırma sorularını incelemek için betimsel araştırma bileşenleri kullanılmıştır (Gedik, 2010).

Bulgular, öğrencilerin bu derslerde harmanlanmış öğrenmenin uygulanmasına ilişkin algılarının olumlu olduğunu göstermiştir. Ayrıca, öğrencilerin sınıf atmosferi hakkındaki görüşleri verimli bir şekilde iyi olarak tanımlanabilir. Ancak, covid-19 salgını nedeniyle, öğrencilerin dönem başından kısa bir süre sonra fiziksel olarak derslere girme şansları olmadı. Bunun sonucu olarak, bazı öğrenciler kendilerini yalnız hissettiklerini beyan ettiler. Öğrenciler harmanlanmış öğrenmenin bileşenlerini kullanırken bazı teknik sorunlarla karşı karşıya kalmıştır. Ayrıca, sonuçlar katılımcıların cinsiyetlerine göre algılarında istatistiksel olarak anlamlı bir fark olduğunu ortaya koymuştur. ANOVA test bulguları, katılımcıların daha önce aldıkları harmanlanmış derslerin sayısına göre algıları arasında anlamlı bir fark olmadığını göstermektedir.

Anahtar Kelimeler: Harmanlanmış Öğrenme, Skype Kurumsal, Moodle, Öğrencilerin Algısı.

DEDICATION

To my family.

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I would like to express my deepest appreciation to everyone who has supported me, and encouraged me through of this study. I'd also like to extend my sincere thanks to my supervisor Prof. Dr. Muhammet Yaşar Özden for his advices, guidance, and meticulous suggestions.

TABLE OF CONTENTS

ABSTRACTiii
ÖZiv
DEDICATIONv
ACKNOWLEDGEMENTvi
LIST OF TABLESx
1 INTRODUCTION
1.1 Purpose of the Study5
1.1.1 Research Questions5
1.2 Significance of the Study6
1.3 Limitations6
1.4 Definition of Terms
2 LITERATURE REVIEW
2.1 Technology Usage in Education
2.2 Distance Education
2.3 Internet Usage in Education
2.4 Online Learning
2.5 Blended Learning
2.6 Related Studies
3 METHODOLOGY14
3.1 Design of The Study14
3.2 Information About the Courses
3.3 Participants

3.3.1 Pre	ference of Participants' Regarding the Ways of Accessing	ig Website of
the Cours	se	18
3.5 Data Col	lection Instruments	18
3.6 Analysis	of Data	21
3.7 Reliabilit	ty and Validity	21
4 FINDINGS .		23
4.1 Perception	on of the Students About the Implementation and The Co	ontent of The
Courses, On	nline Participation Through Skype For Business and	Face-To-Face
Courses		23
4.1.1 Imp	plementation and the Content of the Courses	23
4.1.2 Onl	line Participation Through Skype for Business	25
4.1.3 Fac	e-to-Face Participation	26
4.2 Perception	on of the Students About the Classroom Atmosphere, Ad	Ivantages and
Disadvantage	es	27
4.2.1 Cla	ssroom Atmosphere	27
4.2.2 Adv	vantages of Blended Learning Environment	29
4.2.3 Dis	advantages of Blended Learning Environment	30
4.3 Learners'	'Perceptions on Blended Learning Based on Their Gender	r 32
4.4 Perception	on of the Students Based on Type of High School They Gra	aduated from,
and Number	of Blended Courses They Took Before	34
4.4.1 Typ	be of High-school They Graduated	34
4.4.2 Nu	mber of Blended Courses They Took Before	36
4.5 Summary	y	37
5 DISCUSSIO	ONS AND CONCLUSIONS	43
5 1 Diamonia		42

5.1.1 Perception of the Students About the Implementation and The Content of
The Courses, Online Participation Through Skype For Business and Face-To-
Face Courses
5.1.1.1 Implementation and the Content of the Courses
5.1.1.2 Online Participation Through Skype for Business
5.1.1.3 Face-to-Face Participation
5.1.2 Perception of the Students About the Classroom Atmosphere, Advantages
and Disadvantages
5.1.2.1 Classroom Atmosphere
5.1.2.2 Advantages of Blended Learning Environment
5.1.2.3 Disadvantages of Blended Learning Environment
5.1.3 Learners' Perceptions on Blended Learning Based on Their Gender 46
5.1.4 Perception of the Students Based on Type of High School They Graduated
from, and Number of Blended Courses They Took Before47
5.1.4.1 Type of High-school They Graduated
5.1.4.2 Number of Blended Courses They Took Before
5.2 Conclusions
REFERENCES
APPENDICES
Appendix A: Course Outline
Appendix B: Students' Perceptions Questionnaire
Appendix C: Ethics Committee Approval
Appendix D: Participants' Original Responses in Turkish
Appendix E: Turnitin Originality Report

LIST OF TABLES

Table 3.1: Students' Demographic Information Frequencies
Table 3.2: The ways to access to the course website
Table 3.3: Research Questions and Data Collection Instruments
Table 4.1: Learners' Perceptions Regarding the Implementation and Content of
Courses
Table 4.2: Participation of Students to Skype Sessions of the Course
Table 4.3: Participation of Students to Face-to-Face Sessions of the Course 27
Table 4.4: Learners' Perceptions Regarding the Classroom Atmosphere
Table 4.5: Participants' preferences regarding the learning model for this course based
on their gender
Table 4.6: Participants' preference regarding the using blended learning as instructors
based on their gender
Table 4.7: Participants' preferences regarding the learning model for this course based
on the high-school they graduated
Table 4.8: Participants' preference regarding the using blended learning as instructors
based on the high-school they graduated
Table 4.9: Participants' preferences regarding the learning model for this course based
on the number of blended courses they took before

Chapter 1

INTRODUCTION

Technology is rapidly growing every day. Everything that is used in daily life is being shaped according to technological changes. These changes are being done to make our life easier. Technology brings lots of benefits. Invention of things like computers and phones are always being tried to implement to education system. Accessing to education is not always possible for everyone. Some individuals cannot get education for some difficulties like lack of time. In such situations, bringing students, teachers and school together is not possible. In order to provide education in these kinds of circumstances, distance education is there to help. Distance education offers learning without forcing learners to physically attend the classes. The major reasons why distance education exist is because of the ease of usage, low costs, easy to distribute and easy to access. Those things helped distance education became more popular. The first examples of distance education were with correspondence, TV and radio (Kılınç, 2015).

After internet became available for public, it affected distance education as well. Internet is what makes computers capable of almost anything. Internet is useful for education regarding the communication and interaction aspects. These aspects make internet great tool for education. Internet allows us to have education anywhere and anytime. Invention of computer and internet contributed education a lot. Because of the internet, distance education rapidly grown and became more efficient. Now anyone

can get education in anywhere and anytime. There are no limits anymore. Since the late 1960s, technology play role in education. The discussion has evolved from "does technology have benefits in education?" into "how can this be used in the best way possible?" (Crawford, 2009).

Another important issue is "how this technology can be used where most of the teachers are still practicing 19th century model of teaching?" (Crawford, 2009). In order to get most benefits from technological developments, they need to be used efficiently and carefully. Preparing teachers for such innovation can be hard. Just like students, teachers are individuals too and there might be teachers who likes traditional ways more. Therefore, training teachers is essential.

Interactive collaborative websites emerged after invention of Web 2.0 tools. Web 2.0 tools changed internet forever. Web 2.0 focuses on interaction, cooperation and sharing. Therefore, it brought new platforms to internet. Examples of these platforms can be microblogs, content sharing sites, learning platforms (e.g. Moodle) and social media networks (Argin, 2013).

With developments of information technologies and easy access of internet made online learning essential part of education. When face-to-face education is integrated with online learning, a whole new teaching method called "blended learning" emerged. Blended Learning (BL) focuses on: (1) Enabling accessibility and adaptability, (2) strengthening existing learning and teaching methods, and (3) converting people's learning (Bonk & Graham, 2012).

In order to meet new society needs, today's education systems need to be developed. BL is used by a lot of higher education institution, exclusively ones which already use distance education and other e-learning methods (Mortera-Gutiérrez, 2006). According to Sloman, the idea of integrating different teaching methods (traditional and online) to make learning more effective is a long-standing idea. For this purpose, teachers use different integrated teaching strategies in classroom. This "integration" which enhanced with technology and got significant achievement in 2001 is called blended learning. BL is not a new term and its potential was noticed with the "e-learning" (Dağ, 2011).

Blended learning brought several different kinds of teaching methods. Some of them was successful but some of them was failure that give frustrations to teachers, instructors and students. The most used elements of BL are as follow:

- The classroom or lab settings that are traditional.
- Reading tasks.
- Optical discs such as CDs and DVDs.
- Tool to support performance.
- Teleconference.
- Web-based teaching and learning (online classroom).
- Asynchronous web-based instruction (e.g. LMS).
- Web-based synchronous training (e.g. Skype For Business) (Kerres & De Witt, 2003).

One of the most important advantages of blended learning is that blended learning can provide a community that gives conditions of free dialogue and critical thinking (Garrison & Kanuka, 2004). According to Gedik, Kiraz and Ozden's (2013) study,

instructors and teaching assistants found that students' perceptions about BL are mostly positive. One of the teaching assistants states that instructors are able to gain maximum attention because of the BL environment. The facility of contacting with instructor in face-to-face and online environment is a major plus for students.

Özdan (2018) conducted a research called "The use of technology by teachers in education". He declared that, the purpose of the study is to explain how the use of technology occurred in the education sector by literature review and conducting survey. This study conducted within 76 female and 24 male teachers. His research reveals that teachers' perception scores about the access of technology are mostly high. Also, he stated there aren't significant differences between different age groups or different fields of teachers. However, study shows that technology suitability perceptions have decreased as teachers use more technology.

Demir (2016) carried a research called "The attitudes of prospective social science teachers to the internet access and their self-efficacy confidence in educational internet use". He defines the aim of the study as investigating the self-efficacy beliefs and attitudes towards the Internet of prospective science teachers towards educational Internet use. He conducted this study within 337 teacher candidate students from Giresun University. 148 of them are females and 189 of them are male students. This study has been done in "Computer-I" and "Computer-II" courses. Study shows that social science teacher candidates' perception regarding the internet is medium level. Moreover, findings indicate that there is a significant difference among genders. Demir states that there were less differences between genders according to studies but nowadays differences are getting significant. Furthermore, this study reveals that

perceptions regarding the internet changes according to the whether student have his/her own computer or not.

Aim of this study to investigate the perceptions of students about the use of blended learning in computer literacy courses. Blended learning is still developing learning system and there are different types of implementation techniques. There is a specific technique that has been used in Eastern Mediterranean which needs to be investigated in the terms of student perspective. The background and the purpose of the study, research questions, the significance of the study, and the definition of terms are presented in this chapter.

1.1 Purpose of the Study

The purpose of this study is to investigate the perceptions of learners regarding the blended learning settings that is used in EMU. This perception will be examined in the terms of the specific settings that has been used in EMU courses. Potential advantages, and disadvantages of Blended Learning will be researched through the perceptions of learners. Specifically, the research questions specified for this study are as follows:

1.1.1 Research Questions

- I. What are the learners' perceptions regarding the blended learning in terms of (1) the implementation and the content of the courses, (2) online participation through Skype for Business, (3) face-to-face courses?
- II. What are the learners' perceptions regarding the blended learning in terms of (1) classroom atmosphere, (2) advantages, (3) disadvantages?
- III. Are there significant differences in the learners 'perception about blended learning based on their gender?

IV. Are there significant differences in the learners' perception based on (1) the type of high-school they graduated, (2) the number of blended courses they took before?

1.2 Significance of the Study

This study will examine the advantages and challenges students may face regarding the blended course. Furthermore, this study will explore whether the gender differences effect perception or not. Additionally, this study will investigate perception of the learners based on the high-school they graduated and the number of blended courses they took previously.

This study is conducted on Eastern Mediterranean University. This study will help improving distance education within the university. It will find the reasons behind the problems regarding the BL courses and help solving or minimizing those problems.

1.3 Limitations

This study has some limitations regarding the several reasons. In order to reduce those limitations special effort has been done. One of the limitations is that this study is conducted in the 2019-2020 spring semester. Which makes this study focus on only a specific time duration. Another limitation is the tool used on the course. This course uses Skype for Business and Moodle as instructional tool. Results could vary regarding the tool being used.

Furthermore, the participants are another limitation of this study. This study is limited to 102 students who are taking ITEC115 and ITEC190 courses. Besides, there are only 10 participants who declared that they graduated from vocational high-school among the 102 participants. Therefore, results are produced on these participants.

The most important limitation of this study is the Covid-19 pandemic. Approximately one month after the beginning of the classes, Eastern Mediterranean University has decided to cancel classes for a week because of the emerging of the covid-19 cases in the country. It was hoped that a one-week cancellation would be enough for overcoming the situation. However, it wasn't enough and the cancellation lasted till the end of the semester. Therefore, the university senate decided to give the rest of the educational activities for this semester through distance education. Consequently, students were only able to join their lab sessions of the course for the first 3-4 weeks of this semester.

1.4 Definition of Terms

In this part, the definitions of the terms that has been used in this study are presented.

Blended Learning: The combination of traditional face-to-face learning and online learning facilities (Reay, 2001).

Distance Education: Distance Education means educational model in which students and instructors are separated. Learning is conducted by e-mail, letters, internet etc. (King, Young, Drivere-Richmond, & Schrader, 2001).

Chapter 2

LITERATURE REVIEW

In this chapter, definitions and previous studies regarding each definition will be examine and discussed. The literature review begins by discussing the detailed explanation of technology usage in education. Internet usage in education follows this. Then it continues with the discussion BL usage. And the last part is reviewing related studies.

2.1 Technology Usage in Education

Internet and technology rapidly grow and being used in almost every field. One of these fields is education. After involving technology in education, new models emerged. Because technology made education more efficient and different. This contributes made technology a necessity in education (Gülbahar, 2005).

In order to educate students who are familiar with needs of changing world and capable of understanding usage of technology, we need to integrate technology in classrooms (Tanık Önal & Gölgeli Söndür, 2017). According to Aslantaş (2014), the reasons why technology should be used in education can be listed as below:

- Increasing access to education,
- Making quality of education better,
- Decreasing cost of education,
- Providing cost effectiveness in education,
- Responding to the necessity of technological change,

 Providing skills that students will need in their work and private life by using technology.

2.2 Distance Education

Moore and Kearsley (2011) defines distance education as providing education to the learners which doesn't have to attend classes by using combination of special teaching materials and teaching methods with including instructions technologies.

Distance education is provided in mostly all around the world for the kind people who can't or don't want to attend classes physically. There are a lot of universities that are providing distance education programs. Those universities are presenting printed and/or recorded courses. Students sometimes get face-to-face class sessions too. Distance education gives chance students to learn at their own pace. Also, there are some universities called dual-mode organization, they serve both face-to-face programs and distance education programs (Holmberg, 2005).

2.3 Internet Usage in Education

Internet is the network that connects all computers to each other. As reported by Boldt, Gustafson and Johnson (1995), internet is a great tool for enriching learning habits and experiences. Most important goal for using this tool is to introduce internet to students and help them being a part of this World Wide Web.

According to Wilson and Marsh II (1995), there are important benefits of internet; one of the benefits is that students can use internet for communicating, researching, accessing knowledge and sharing. Another benefit is accessing internet removes all borders including school's walls. Students can access internet from anywhere and anytime.

Making researching on internet can teach students that there are multiple ways for solving problems. This can lead students to examine other's opinions about things. In this process, students will gain higher order thinking skills and also analyzing & synthesize skills.

2.4 Online Learning

Online learning is one of technology 's biggest growing developments in educational uses. With the emergence of the Internet, the possibilities to access to the learners all around the world has significantly increased. Also, online learning provides a great amount of educational resources in various mediums and the ability to encourage interaction between educators and students as well as between different learners. (Means, Toyama, Murphy, Bakia, & Jones, 2010).

Online learning has turned into widely known because of its capability to include more adaptable access to material and learning at anytime, anyplace (Means et al., 2010). Providing highly efficient assessment while ensuring learners attention and willingness is a struggle for online learning (Anderson, 2008).

2.5 Blended Learning

BL basically means integrating face-to-face instruction with computer enhanced medium. The term "blended learning" was used to describe combining to teaching methods together (Bonk & Graham, 2012). However, development and benefits of internet made distributed learning essential part of BL.

According to Dağ (2011), BL highlights the advantages of both traditional classroom teaching and e-learning in most efficient way. BL removes the boundaries of time and place. Furthermore, it provides student-centered learning that enables students to

control their learning without teacher's guides. Another advantage of BL is that it gives opportunity to have pre-learning phase online so that face-to-face sessions can be used more efficiently.

2.6 Related Studies

Gedik (2010) undertook a research titled "A design based research on the use of a blended learning environment". She explains the aim of this study is to investigate and define learner and educator understanding and perceptions of the setup of the course and to define important factors related to the practice of a blended learning settings. In this research, a design based research design was used and data was collected from third grade university students and qualitative approaches were used. The blended learning environment has increased the motivation of students, has given the opportunity to communication and express their ideas freely. Also, it provided an environment that reinforces learning. The challenges encountered is described as an increase in workload, cultural and technical issues.

Kocaman Karoğlu (2009) conducted a research called "Students' perceptions and motivations of a blended course guided by good practice principles and motivation". She defines her aim as investigating the perceptions of learners in the blended course relative to the use of Seven Principles for Good Practice in Undergraduate Education. Results of this study shows that students are satisfied with the interaction that blended course provides. Students also thinks that blended course is suitable for their learning. Since it's a combination of face-to-face and online learning, they liked the flexibility of blended course. Being able to access the course documents made students think blended course was helpful for them. Students were satisfied with the course's website that serves everything they need for the course. However, results revealed that students

didn't attend volunteer online discussions. It might show that students don't want to attend such kind of discussion if they are not required to.

Ersoy (2009) conducted a research called "The preservice teachers' perceptions about online communication in blended learning: A case study". This study was conducted on a course that use web-based environment. This website has lecture notes, resources, announcements, homework submissions, discussion boards, download page, video broadcast of the lectures. In this study, instructors of the course were active user of the website so students didn't feel alone on the website. The reasons why students entered website can be listed as:

- To reach to lecture notes
- To learn scores
- To reach to course material
- To get and send assignments
- To watch lecture videos
- To look at the forum
- To get news
- To follow the schedule

Yapıcı (2019) carried out a study called "Students' and instructors' perceptions on blended learning in an English preparatory program". She describes the aim of the study as investigating the perceptions and perspectives of learners and instructors towards blended learning. The study was conducted by collecting perceptions of 120 English preparatory program students with a questionnaire. In addition, 5 instructors were interviewed to investigate their opinions. The collected data showed that students' perceptions of blended language teaching are generally neutral. However, it showed

that the face-to-face and online part is rated higher. Besides, according to the results, teachers' attitudes towards blended learning are more positive than students.

Chapter 3

METHODOLOGY

This chapter presents information about the design of the study, information regarding the course, sampling procedure and information about participants, data collection instruments, analysis of the data and quality of the research.

3.1 Design of The Study

This study conducted on Eastern Mediterranean University (EMU) computer literacy courses with codes of ITEC190 and ITEC115. These courses are given with blended learning. Blended learning consists of combining online learning and face-to-face learning. Students are given opportunity to attend classes anywhere they want via Skype for Business. Students can follow lessons online, synchronized and with the chance of communicating with instructor. The researcher's aim in this study is to investigate the perceptions of students regarding blended learning.

This study utilizes the components of descriptive study. Descriptive study is intended to describe features of a phenomenon. Descriptive studies offer information that identifies variables, illustrates connections, and helps to our comprehension of the argument being made. The main objective is to describe a social phenomenon where it is comparably recent or simply required to be defined (Thyer, 2001).

As summary, the aim of the study is to investigate perceptions of students about the use of blended learning in computer literacy courses. Furthermore, we will be able to

understand the perception of students while having a course with blended learning settings. In order to answers research questions, this study was conducted on ITEC115 and ITEC190 course.

3.2 Information About the Courses

The names of the courses are "ITEC190-Computer for Law" and "ITEC115-Introduction to Computer". These courses aimed to provide the student with the basic knowledge and skills required to introduce the basic hardware units and operating systems of the computer, to give information about the use of the internet and to prepare documents, spreadsheets and presentations on the computer using office programs. As the course outline (Appendix A) says, students who have successfully completed the course will gain the qualifications listed below:

- Using the basic concepts of information technology,
- To know basic computer hardware,
- To have information about operating systems,
- Creating documents with the help of word processing program,
- Creating spreadsheets with the help of spreadsheet program,
- Preparing effective presentations with the presentation program.

These courses are offered in blended learning. This is an integration project between Microsoft Office365 (Skype For Business) and Moodle (Learning Management System) working together in a single sign on manner. The reason why Moodle was used is that it's a popular LMS system that easy to use for students. Moreover, Skype for Business was used because the university had license that allows it to use Microsoft products, therefore Skype for Business was selected for this setting. Students access to that Moodle of the course by using their student email address and password.

Username and passwords are synchronized with universities databases and Office 365. In addition to that, students can send messages to their instructor trough skype for business. There was still chance for students to attend classes physically if they liked to. Attendances were being recorded by MS Skype for business and OneNote automatically. Skype for Business application available for almost every platform (e.g. windows, android, IOS etc.). And also, Moodle is a web-application and can be accessed through almost every device that has internet connection. Students can take advantage of attendance ease and easy access of information with blended learning.

An email invitation was sent to students for weekly Skype for business lectures. When it's close to class hour, students can open skype for business and attended online classes. Each course was being given for 4 hours weekly. 2 hours of the course were for theoretical part. And the other 2 hours were for practical application part of the course. Students attended theoretical sessions physically or via Skype for business. Practical sessions were taking place in computer laboratories where students had chance to try out the content that they learnt in theoretical part with the help of instructor's presence.

The interface of the Skype for business when they are in "meeting" contains the video of the instructor and the lecture notes/slides that instructor is using in class. Moreover, these lessons were being recorded every week and edited videos are placed on course's Moodle site for on-demand watching purposes. Besides videos, lectures notes were being shared on Moodle site and students were also submitting their practical applications assignments to the Moodle site.

3.3 Participants

Aim of this study is to investigate the perception of students who are taking ITEC115 and the ITEC190 courses. Questionnaires were placed in the Moodle website of each course and students were asked to participate after the midterm examination period.

Totally, 102 students have filled the questionnaire. Demographic information of the participants is shown below in Table 3.1.

Table 3.1: Students' Demographic Information Frequencies

Gender	F	%
Male	41	40,2
Female	61	59,8
The Type of High School That Graduated From	F	%
Normal / Anatolian / Science High School etc.	92	90,2
Vocational / Technical High School etc.	10	9,8
The Number of Blended Courses Taken Previously	F	%
None	43	42,2
1	41	40,2
2	2	2,0
3 or more	16	15,7
Internet Access	F	%
No	4	3,9
Yes	98	96,1

As it is shown in Table 3.1, 40,2% of the participants were male and 59,8% of them were female. Only 9,8% of the participants were graduated from a technical / vocational high school where they have computer literacy curricula. 95,1% of the

participants have their own computer or smartphone, and 96,1% of them have access to internet. 4,9% of the participants did not own a computer or a smartphone.

3.3.1 Preference of Participants' Regarding the Ways of Accessing Website of the Course

Participants were asked the ways they use to access to the course website in order to understand what kind of medium they use the most to access course's website. As it is shown in Table 3.2, by far the most preferred medium was "smartphones". Participant ranked "personal computers" at second most preferred medium that they use to access course website. "Department computer laboratories" and "other" options has same mean, and least used medium is "dormitory computer laboratories"

Table 3.2: The ways to access to the course website

	Frequency Order							
Medium	Most often	Often	Rarely	Never				
Smartphone	58	33	9	2				
Personal Computer	39	36	14	13				
Dormitory Computer Laboratories	2	2	23	75				
Department Computer Laboratories	4	3	19	76				
Other	4	3	19	76				

3.5 Data Collection Instruments

As declared in earlier in this chapters, this study utilizes the components of descriptive study. In order to fulfill the inquiry on the research questions, quantitative data were collected by using a questionnaire (Appendix B). This questionnaire was originally

prepared by Gedik, Özden and Kiraz in 2010 and it was used as data collecting tool. It was developed and used in PhD thesis titled "A Design Based Research on the Use of Mixed Learning Environment".

The original questionnaire was designed to collect data regarding the students' perception about the experiences they gained in the blended settings. Questionnaire contains Likert-type scale components and it includes open-ended type questions. It was used for the same purpose, collecting data from students about their use of blended learning in computer literacy courses.

Table 3.3: Research Questions and Data Collection Instruments

	Research Questions	Sections of the Students' Perceptions Questionnaire (Appendix B)				
1.	What are the learners' perceptions regarding the blended learning in terms of; i. the implementation and the content of courses, ii. online participation through Skype for Business, iii. face-to-face courses?	 i. Items in the Part B and the part C. of the questionnaire. ii. The seventh item of the part A. of the questionnaire iii. The eighth item of the Part A of the questionnaire. 				
2.	What are the learners' perceptions regarding the blended learning in terms of; i. classroom atmosphere, ii. advantages, iii. disadvantages?	 i. Items in the Part B and the Part C. of the questionnaire. ii. The first item of the Part D. of the questionnaire. iii. The second item of the Part D of the questionnaire. 				
3.	Are there significant differences in the learners 'perception about blended learning based on their gender?	The first item of the Part A, fifth and tenth item of the part D of the questionnaire				
4.	Are there significant differences in the learners' perception based on; i. the type of high-school they graduated, ii. the number of blended courses they took before?	i. The second, fifth and tenth items of the Part A. of the questionnaireii. The ninth and tenth items of the Part A. of the questionnaire.				

There were four parts in the questionnaire. Part A consists of 10 questions regarding the personal information such as gender, how many blended learning courses did they take etc. Both Part B and Part C included components that were evaluated on a Likert-type scale. In this scale, 1 indicates "Strongly Disagree" to 5 indicates "Strongly Agree". The Part B covered 23 components for the possible positive aspects of the blended learning settings and the Part C covered 18 components for the possible negative aspects of the blended learning settings. The final part of questionnaire is "Opinions" part which consist of 6 questions, where learners are expected to declare their opinions regarding the blended learning.

The questionnaire was examined by the supervisor and made some minor changes to make it more suitable for this research. For instance, the third question of the Part A was changed from "Do you have a computer where you live (home, dormitory, etc.)?" to "Do you have your own computer / smartphone that you can use Skype for Business?". Another example, the seventh question of the Part A was changed from "How do you evaluate your participation in the web environment of the course?" to "How do you evaluate your participation in the Skype environment of the course?". After making these minor changes, the questionnaire was sent to EMU's Scientific Research and Publication Ethics Board (BAYEK) with the Research Ethics Eligibility General Application Form to get ethical approval. BAYEK approved the request on April 3, 2020 (Appendix C).

This questionnaire was delivered to students by using Google Forms. Google Forms links was added to the Moodle. Students were requested to participate the survey in the end of the lessons.

3.6 Analysis of Data

Quantitative data analysis was included of descriptive statistics for determining standard deviations, frequencies, means and percentages using Statistical Package for Social Science (SPSS, Version 26). The main objective was to answer the question regarding the perception of the students about the blended learning with a focal point on positive and negative aspects of it to the learning settings.

It is important to bear in mind that due to the language of the course being Turkish, all of data and questionnaire itself were in Turkish language. The direct quotations translated from Turkish to English and the original data presented in Appendix D.

3.7 Reliability and Validity

The questionnaire that is used in this study was examined in the terms of validity and reliability with the data collected. The substance of the questionnaire was maintained from discussions with instructors, and from the researcher's past knowledge in the utilization of blended model in instructing and learning, from some literature analysis on blended learning and accuracy of learning (Gedik, 2010).

The term reliability relates to the consistency of the criteria (Bryman & Cramer, 1997). A pilot test with 102 learners was operated by Gedik (2006). After professional and peer recommendations, alterations were made with respect to the substance and language of the components. After a factor inquiry, the 55 components in the Part B of the questionnaire was decreased to 23 and the Part C was decreased from 41 to 18. The last reliability coefficient (Cronbach's Alpha coefficient) was seen as ,96 (Gedik, 2010).

The value of reliability of this research's instrument is measured by Cronbach's alpha within the two section of the instrument which are consist of the Part B and Part C. Part C of the questionnaire includes possible negative aspects of the blended learning environment. Therefore, values are converted into reverse values via using SPSS (The Open University, n.d.). Cronbach's alpha result of 41 items of these two sections is ,986 which is satisfactory reliability.

Chapter 4

FINDINGS

In this chapter, findings of this study will be presented. Data of the study was collected from students by a questionnaire. Information of this questionnaire was already presented in methodology chapter (Chapter 3). Findings of the perceptions of the learners regarding the blended learning will be presented in order to respond the research questions of this study. Findings will be shown by starting with the results that respond to the research questions mentioned in previous chapters. Then, a summary of the findings is presented in the end of this chapter.

4.1 Perception of the Students About the Implementation and The Content of The Courses, Online Participation Through Skype For Business and Face-To-Face Courses

As the first research question inquires, "What are the learners' perceptions regarding the blended learning in terms of (1) the implementation and the content of the courses, (2) online participation through Skype for Business, (3) face-to-face courses?", results of this question will be shown respectively under this section.

4.1.1 Implementation and the Content of the Courses

Table 4.1 below shows the means and the frequencies on the learner's perception regarding the implementation and the content of the courses. Students were asked to rate these items in the Part B and the Part C of the questionnaire which were called "Possible Positive Aspects of the Blended Environment" and "Possible Negative

Aspects of the Blended Environment" respectively. Results of the items that can respond to first part of the first research question shown in Table 4.1 below.

Table 4.1: Learners' Perceptions Regarding the Implementation and Content of Courses

Statements		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	M	SD
Resources and materials in the lesson were rich.	F %	2 2,0	6 5,9	13 12,7	40 39,2	41 40,2	4,10	,97
A rich communication and interaction environment were provided.	F %	4 3,9	5 4,9	16 15,7	38 37,3	39 38,2	4,01	1,05
It was possible to repeat what I learned in face-to-face lessons in the Web environment.	F %	3 2,9	6 5,9	14 13,7	38 37,3	41 40,2	4,06	1,02
It was possible to repeat what I learned on the web in face-to-face lessons.	F %	3 2,9	7 6,9	13 12,7	47 46,1	32 31,4	3,96	,99
Assessment in face-to-face and Web environments supported each other.	F %	3 2,9	6 5,9	15 14,7	39 38,2	39 38,2	4,03	1,02
The instructor was using blended environment well.	F %	2 2,0	6 5,9	12 11,8	35 34,3	47 46,1	4,17	,99
Communication and interaction with the lecturer were efficient.	F %	1 1,0	8 7,8	12 11,8	39 38,2	42 41,2	4,11	,96
I had technical problems while using the web page of the course.	F %	34 33,3	41 40,2	15 14,7	8 7,8	4 3,9	2,09	1,07
Adequate technical support was not provided for using the web page of the course.	F %	39 38,2	37 36,3	18 17,6	5 4,9	3 2,9	1,98	1,01
When face to face and Web environment were together, there was a lot of time loss.	F %	37 36,3	39 38,2	17 16,7	7 6,9	2 2,0	2,00	1,00
Blended learning environment was not suitable for the content of this course.	F %	40 39,2	41 40,2	16 15,7	4 3,9	1 1,0	1,87	,89

The activities and materials in the lesson were not rich.	F %	40 39,2	41 40,2	15 14,7	4 3,9	2 2,0	1,89	,93
There was an incompatibility / disconnection between the web environment and the face-to-face environment.	F %	41 40,2	39 38,2	16 15,7	4 3,9	2 2,0	1,89	,94
The face-to-face activities (discussion, guest presentations, group events etc.) were insufficient.	F %	43 42,2	37 36,3	16 15,7	4 3,9	2 2,0	1,87	,95
Having both web environment and face-to-face course activities increased the course load.	F %	38 37,3	37 36,3	16 15,7	7 6,9	4 3,9	2,04	1,08
Assessment in face-to-face and Web environments did not support each other.	F %	40 39,2	43 42,2	14 13,7	2 2,0	3 2,9	1,87	,93
The instructor could not use blended environment well.	F %	47 46,1	36 35,3	13 12,7	2 2,0	4 3,9	1,82	1,00
I did not have efficient communication and interaction with the lecturer.	F %	53 52,0	32 31,4	13 12,7	2 2,0	2 2,0	1,71	,91
I did not interact efficiently with the course content (presentations, document, etc.).	F %	38 37,3	42 41,2	16 15,7	5 4,9	1 1,0	1,91	,90

The general perception of the learners regarding the implementation and the content of the course is shown in Table 4.1. Means of each item shows that learners are mostly satisfied with the implementation and the content of the course. When students were asked to rate "The instructor was using blended environment well." item, the mean of this item (M=4,17) shows that most of them think blended environment was implemented good in the course.

4.1.2 Online Participation Through Skype for Business

In order to fulfill the second part of the first research question, participants were asked "How do you evaluate your participation in the Skype environment of the course?".

This question was the seventh item of the Part A of the questionnaire. Findings of this question are shown in Table 4.2 below. 69,6% of the students said they were participating skype sessions very actively and 23,5% of them were active sometimes in Skype sessions. Only 6,9% of the participants declared that they weren't active in skype at all.

Students were asked to explain their answer and majority of the explanations were positive like "It's an easier way to attend classes", "It helps about using time efficiently". However, some of them declared that they attended skype because they had to attend. Furthermore, there were some students that complained about not having proper internet connection or device at the moment of live skype sessions.

Table 4.2: Participation of Students to Skype Sessions of the Course

Gender		Not at all	Active Sometimes	Very Active
Male	F	4	8	29
Wide	%	9,8	19,5	70,7
Famala	F	3	16	42
Female	%	4,9	26,2	68,9
Total	F	7	24	71
10tai	%	6,9	23,5	69,6

4.1.3 Face-to-Face Participation

Participants were asked "How do you evaluate your participation in the face-to-face environment of the course?". They answered this question in the eighth item of the Part A of the questionnaire. Table 4.3 below shows that, 36,3% of participants said that they didn't attend face to face sessions at all. 53,9% were active sometimes and 9,8% of them were very active in face to face sessions.

When they were asked about the reason behind their answer, some of them said that they didn't attend face to face sessions anymore because they learned that they can use Skype for Business to attend classes. Some of the students said that there is no need to go to classes when they can attend through skype. One of the students explains the reason behind why he/she weren't very active with saying "instead of getting ready, having breakfast and walk to faculty, I chose to use this good skype advantage. I only went to classes for lab sessions". Some of them said that they liked joining face to face sessions but they couldn't attend due to Covid-19 outbreak.

Table 4.3: Participation of Students to Face-to-Face Sessions of the Course

Gender		Not at all	Active Sometimes	Very Active
Mala	F	18	21	2
Male	%	43,9	51,2	4,9
Eamala	F	19	34	8
Female	%	31,1	55,7	13,1
Total	F	37	55	10
Total	%	36,3	53,9	9,8

4.2 Perception of the Students About the Classroom Atmosphere, Advantages and Disadvantages

Second research question of the study inquires "What are the learners' perceptions regarding the blended learning in terms of (1) classroom atmosphere, (2) advantages, (3) disadvantages?". Therefore, findings that respond to this question will be shown respectively in this section.

4.2.1 Classroom Atmosphere

As Table 4.4 shows, the means and the frequencies of the learner's perception regarding the classroom atmosphere of the blended learning environment are presented. Items that can reveal the perception of the students regarding the classroom

atmosphere are listed in Table 4.4 below. These items were placed in the Part B and the Part C of the questionnaire which were called "Possible Positive Aspects of the Blended Environment" and "Possible Negative Aspects of the Blended Environment" respectively.

Table 4.4: Learners' Perceptions Regarding the Classroom Atmosphere

Statements		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	M	SD
A rich communication and interaction environment were provided.	F %	4 3,9	5 4,9	16 15,7	38 37,3	39 38,2	4,01	1,05
I could actively participate in the course.	F %	3 2,9	8 7,8	12 11,8	42 41,2	37 36,3	4,00	1,03
It was good to have discussions both on the Web and in face-to-face environments.	F %	2 2,0	8 7,9	13 12,9	44 43,6	34 33,7	3,99	,98
I was given the opportunity to learn from my classmates.	F %	4 3,9	6 5,9	18 17,6	40 39,2	34 33,3	3,92	1,05
My participation in the course was supported by using various teaching methods (question-answer, collaborative learning, discussion in the forum, etc.).	F %	3 2,9	8 7,8	14 13,7	42 41,2	35 34,3	3,96	1,03
Interaction and communication with other friends in the classroom were efficient.	F %	3 2,9	11 10,8	14 13,7	41 40,2	33 32,4	3,88	1,07
With blended learning, an environment was provided where I could use my own learning methods (reading, listening, telling, practicing, discussion, etc.).	F %	2 2,0	10 9,8	12 11,8	44 43,1	34 33,3	3,96	1,01
The face-to-face activities (discussion, guest presentations, group events etc.) were insufficient.	F %	43 42,2	37 36,3	16 15,7	4 3,9	2 2,0	1,87	,95

I did not have efficient communication and interaction with other friends in the class.	F %	35 34,3		17 16,7	7 6,9	3 2,9	2,05	1,03
I did not interact efficiently with the course content (presentations, document, etc.).	F %	38 37,3	42 41,2	16 15,7	5 4,9	1 1,0	1,91	,90

The overall perception of the participants regarding the classroom atmosphere is summarized in Table 4.4. Means of item that presented above indicate that participants found classroom atmosphere effective for their learning. When students were asked to rate "The face-to-face activities (discussion, guest presentations, group events etc.) were insufficient." item, the mean of it (M=1,87) shows that most of them think that face to face activities are not insufficient. Also, students were asked to rate the item "A rich communication and interaction environment were provided" and the mean of the item was 4,01 which indicates that most of students think interaction and communication in the classroom was rich. However, participants rated this "Interaction and communication with other friends in the classroom were efficient." (M=3,88) item slightly lower than the other items shown above.

4.2.2 Advantages of Blended Learning Environment

Students opinions regarding the blended learning environment were asked in first item of the Part D of the questionnaire. In order to understand their perception on the advantages of blended learning environment, students were asked to express their opinions by asking them "Based on your experience in ITEC115 / ITEC190 course, would you please explain the issues that you think blended learning environments contribute most in learning lesson topics?". Students have different perceptions regarding the advantages of the environment. The most repeated and similar responses are listed below:

- It is useful to learn theoretical parts of the lesson in skype sessions and practice what we learn in lab sessions.
- It is useful in the matter of lastingness.
- To learn the topics that I didn't understand with the help of PowerPoint slides and videos on the Moodle.
- I was able to both follow lesson and do the practice applications at the same time.
- It's nice to take the computer and listen to the lesson in a quiet place.
- Having mock exams on Moodle and watching the lesson records.
- To be able to watch the lessons later on video.
- I focus more easily when I attend classes at home.
- I learned to use the technological tools we use every day more efficiently.
- I learned about online lessons.
- It helped me with the reducing the busyness of the daily routine.
- It reduced the tiring and tension of the days. I think it is very comforting to attend the next lesson online after going through an intensive course.

Students' responses show that there are many advantages of blended learning in the perspective of the learners, those advantages helped them learning their lesson topics better.

4.2.3 Disadvantages of Blended Learning Environment

In order to understand learners' perception on the disadvantages of blended learning environment, students were asked to state their opinions by asking them "Based on your experience in ITEC115 / ITEC190 course, can you explain the challenges of blended learning environments? (Can you talk about the difficulties arising from the

blended environment in learning the lesson?)". This was the second item of the Part D of the questionnaire. The most repeated and similar answers are listed below:

- Internet problems, I am occasionally disconnected from online classes. (18
 other students also complained about internet problems.)
- 1-Not enough resources (computer). 2-The Internet is slow and financially inadequate. 3-Homeworks are not suitable for everyone. 4- Disconnection during the lesson. 5-Not everyone knows how to use the resources properly. 6-Most importantly, the problem we have in exams.
- Since this is not a learning method that I am used to, I could not figure out
 how to take notes, how to study. However, when I used online education
 during the epidemic period, the lesson did not struggle me as much as I
 thought.
- Sometimes I have focus problems when the environment is not suitable.
- Sometimes it can be a little more difficult on the website because we ask
 questions more easily in face-to-face lessons and get more effective
 answers.
- Obligation to attend the course.
- Focusing problems and feeling of loneliness.

There are students who believe that blended learning brought them some difficulties such as listed above. These are mostly related to issues like internet speed, software (Skype For Business) that being used for the lessons, inadequate environment problems etc.

4.3 Learners' Perceptions on Blended Learning Based on Their Gender

Third research question seek to answer "Are there significant differences in the learners 'perception about blended learning based on their gender?" question. Participants' gender data were obtained from the first item of the Part A of the questionnaire. One of the ways to fulfill this question was the cross-tabulation analysis that was conducted within participants' gender and their preference on learning environment. Participants were asked "If you had a choice, which environment would you prefer for this course?" in the tenth item of the Part A of the questionnaire. The cross-tabulation analyses results are shown in Table 4.5.

Table 4.5: Participants' preferences regarding the learning model for this course based on their gender

Gender		Face to face	Online Learning	Blended Learning	M	SD	p
Mala	F	3	12	26	2.56	62	
Male	%	7,3	29,3	63,4	2,56	,63	005
Famala	F	16	21	19	2.12	01	- ,005
Female	%	26,2	34,4	39,3	2,13	,81	

As it's shown in the table above, 63,4% of male participants prefer blended learning and only 7,3% of them prefers face to face model. However, only 39,3% of female students said that they would prefer blended learning and 34,4% of them said they would prefer online learning for this course. An independent t-test was conducted on the participants' preferences regarding the learning model for this course in order to understand whether there is difference among male and female students' perceptions. Therefore, there is a statistically significant difference regarding the preferences of learners on learning model for male and female since p value found ,005 and smaller

than ,01. In the next item of the questionnaire they were asked to explain why. Responses of those who chose online learning were mostly about the content of the course. One of them said "Face to face model is too much theoretical for this course and makes it easy to forget what we learn. However online learning is kind of practical for this course."

Another way to respond the third research question was the cross tabulation that was conducted between participants' gender and the responds of the participants to "As the professionals of the future, can you write your thoughts on whether or not you are using blended environment in the institutions you will be working?" question. This question was asked in the fifth item of the Part D of the questionnaire. Results of this cross-tabulation analyses shown in Table 4.6 below.

Table 4.6: Participants' preference regarding the using blended learning as instructors based on their gender

Gender		I wouldn't	I would	\mathbf{M}	SD	p
M-1-	F	9	32	1.70	42	
Male	%	22,0	78,0	1,78	,42	00
F1.	F	23	38	1.60	40	- ,09
Female	%	37,7	62,3	1,62	,49	

As it is shown in Table 4.6, male students responded slightly more positively compared to female students. An independent t-test was performed on the participants' preferences regarding the using blended learning as instructors in order to understand whether there is difference among male and female students' perceptions. There is a marginally significant difference on the preferences of learners regarding the using blended learning as instructors for male and female since p value found to be ,09 and that is smaller than ,10.

4.4 Perception of the Students Based on Type of High School They Graduated from, and Number of Blended Courses They Took Before

Fourth research question of the study inquires "Are there significant differences in the learners' perception based on (1) the type of high-school they graduated, (2) the number of blended courses they took before?". Following sections will present the findings that can respond these questions.

4.4.1 Type of High-school They Graduated

In this section, findings that respond to the first part of the fourth research question which is "(1) the type of high-school they graduated" will be presented. A cross-tabulation analyses and an independent t-test was conducted on the findings of the type of high-school they graduated and participants' preferences regarding the learning model for this course. The results were gathered from the second and tenth items of the Part A of the questionnaire. Findings are shown in Table 4.7 below.

Table 4.7: Participants' preferences regarding the learning model for this course based on the high-school they graduated

High-school type		Face to Face	Online Learning	Blended Learning	M	SD	p
Non-Vocational	F	18	32	42	2,26	,77	
High School	%	19,6	34,8	45,7	2,20	, / /	- 00
Vocational High	F	1	1	8	2.70	60	,09
School	%	10,0	10,0	80,0	2,70	,68	

As it's presented in table above, 8 of the participants who graduated from vocational high-school said that they would prefer blended learning, 1 of them chose online learning and 1 of them chose face to face environment. 42 of the participants who graduated from non-vocational type of high-school said that they would prefer blended learning, 32 of them chose online learning and 18 of them chose face to face

environment. In an independent t-test, the p-value is found to be equal to ,09 which means there is marginally significant difference on the learners' preferences about learning model based on the high-school they graduated.

Furthermore, another cross-tabulation analyses and independent t-test was conducted on the results of the type of high-school they graduated and their preferences regarding the using blended learning as instructors. These results were obtained from the second and fifth items of the Part A of the questionnaire. Results are shown in Table 4.8 below.

Table 4.8: Participants' preference regarding the using blended learning as instructors based on the high-school they graduated

High-school type		I wouldn't	I would	M	SD	p
Non-Vocational	F	28	64	1.70	16	
High School	%	30,4	69,6	1,70	,46	<i>5</i> 1
Vocational High	F	4	6	1.60	52	,54
School	%	40,0	60,0	1,60	,52	

Results that shown in Table 4.8 shows that 4 of the participants who graduated from vocational high-school said that they wouldn't prefer to use blended learning as an instructor where 6 of them said they would. Moreover, 28 of the participants who graduated from non-vocational type of high-school said that they wouldn't prefer to use blended learning as an instructor. However, 64 of them said they would prefer to use blended learning as an instructor. Result of independent t-test shows that, p value is equal to ,54 which means there is no significant differences on the participants' preference regarding the using blended learning as instructors based on the high-school they graduated from.

4.4.2 Number of Blended Courses They Took Before

In this part, results that fulfill to the second part of the fourth research question which is "(2) the number of blended courses they took before" will be presented. Students were asked "If you had a choice, which environment would you prefer for this course?". Then, a comparison of mean was conducted within data of the number of blended courses they took before and their preferences regarding the learning model for this course. These data were collected from the ninth and tenth items of the Part A of the questionnaire.

Findings of the comparison are shown in Table 4.9 below (findings are shown with mean values where 1 indicating face to face, 2 indicating online learning and 3 indicating blended learning.):

Table 4.9: Participants' preferences regarding the learning model for this course based on the number of blended courses they took before

The number of blended courses taken before	Face to Face	Online Learning	Blended Learning	M	SD
None	7	17	19	2,28	,73
1	8	8	25	2,41	,81
2	0	2	0	2,00	,00
3 or more	4	6	6	2,12	,81

Findings shows that, participants who took 1 blended course before has higher mean (M=2,41) about preferences regarding the learning model for this course than the other groups. 61,0% of the participants who took 1 blended course before favored blended learning model for this course. However, those who has more than 2 experiences about blended learning has lower means than those who has less or none experiences at all. Out of 18 students who has 2 or more experiences regarding the blended courses, 8 of

them preferred online learning, where only 6 of them chose blended learning. Face-to-Face learning has the biggest percentage by those who has 2 or more experiences among those groups.

Furthermore, The One-Way ANOVA test was conducted within the number of blended courses they took before and their preference regarding the learning model for this course. ANOVA test result shows that there are no significant differences since the p value found to be ,56.

4.5 Summary

This part consists of a summary of the research in terms of the research questions investigated. The summary of the results is shown below.

Research Question 1: What are the learners' perceptions regarding the blended learning in terms of (1) the implementation and the content of the courses, (2) online participation through Skype for Business, (3) face-to-face courses?

- i. What are the learners' perceptions regarding blended learning in terms of the implementation and content of courses?
 - Participants were strongly agreed or agreed with the items listed below:
 - \circ "The instructor was using blended environment well." (80,4%, M=4,17)
 - "Communication and interaction with the lecturer were efficient." (79,4%, M=4,11)
 - \circ "Resources and materials in the lesson were rich." (79,4%, M=4,10)

- o "A rich communication and interaction environment were provided." (75,5%, M=4,01)
- ii. What are the learners' perceptions regarding blended learning in terms of online participation through Skype for Business?
 - When participants were asked "How do you evaluate your participation in the Skype environment of the course?", 23,5% of the participants chose "Active Sometimes" and 69,6% of them chose "Very Active".
- iii. What are the learners' perceptions regarding blended learning in terms of face-to-face courses?
 - When participants were asked "How do you evaluate your participation in the face-to-face environment of the course?", 36,3 % of the participants chose "Not at all" and 53,9 % of them chose "Active Sometimes".

Research Question 2: What are the learners' perceptions regarding the blended learning in terms of (1) classroom atmosphere, (2) advantages, (3) disadvantages?

- i. What are the learners' perceptions regarding the blended learning in terms of the classroom atmosphere?
 - Participants were strongly agreed or agreed with the items listed below:
 - o "A rich communication and interaction environment were provided." (75,5%, 4,01)
 - o "I could actively participate in the course." (77,5%, M=4,00)
 - "It was good to have discussions both on the Web and in face-toface environments." (77,3%, M=3,99)
 - \circ "I was given the opportunity to learn from my classmates." (72,5%, M=3,92)

- o "Interaction and communication with other friends in the classroom were efficient." (72,6%, M=3,88)
- ii. What are the learners' perceptions regarding the blended learning in terms of the advantages?
 - Students were asked "Based on your experience in ITEC115 / ITEC190 course, would you please explain the issues that you think blended learning environments contribute most in learning lesson topics?" and some of the most repeated and similar responses are listed below:
 - o It is useful to learn theoretically and reinforce in practice lessons.
 - I was able to both follow lesson and do the practice applications at the same time.
 - o Having mock exams on Moodle and watching the lesson records.
 - o I learned about online lessons.
 - o It helped me with the reducing the busyness of the daily routine.
- iii. What are the learners' perceptions regarding the blended learning in terms of the disadvantages?
 - Students were asked "Based on your experience in ITEC115 / ITEC190 course, can you explain the challenges of blended learning environments? (Can you talk about the difficulties arising from the blended environment in learning the lesson?)"
 - Internet problems, I am occasionally disconnected from online classes. (18 other students also complained about internet problems.)
 - 1-Not enough resources (computer). 2-The Internet is slow and financially inadequate. 3-Homework is not suitable for everyone.

- 4- Disconnection during the lesson. 5-Not everyone knows how to use the resources properly. 6-Most importantly, the problem we have in exams.
- Sometimes it can be a little more difficult on the website because we ask questions more easily in face-to-face lessons and get more effective answers.
- Compulsion of attendance.
- o Focusing problems and feeling solitude.

Research Question 3: Are there significant differences in the learners 'perception about blended learning based on their gender?

- There is a statistically significant difference regarding the preferences of learners on learning model (Face-to-Face, Online, Blended Learning) for male and female since p value found ,005 and smaller than ,01.
- When participants were asked "If you had a choice, which environment would you prefer for this course?" and findings are shown below:
 - 63,4% of the male participants chose Blended Learning and 29,3%
 of them said they would prefer Online Learning.
 - 39,3% of the participants declared that they would choose Blended
 Learning and 34.4% of them chose Online Learning.
 - It seems that male participants liked blended learning slightly more than female participants. Some of the female students still prefer the face to face environment.

Research Question 4: Are there significant differences in the learners' perception based on (1) the type of high-school they graduated, (2) the number of blended courses they took before?

- i. Are there significant differences in the learners 'perception based on the type of high-school they graduated from?
 - In an independent t-test, the p-value is found to be equal to ,09 which means there is marginally significant difference on the learners' preferences about learning model based on the high-school they graduated.
 - Participants were asked "If you had a choice, which environment would you prefer for this course?". Then, a crosstabulation analysis conducted with the type of high-school they graduated from, and findings are shown below:
 - 8 of the participants who graduated from vocational high-school said that they would prefer blended learning, 1 of them chose online learning and 1 of them chose face to face environment.
 - 42 of the participants who graduated from non-vocational type of high-school said that they would prefer blended learning, 32 of them chose online learning and 18 of them chose face to face environment.
- ii. Are there significant differences in the learners 'perception based on the number of blended courses they took before?
 - The One-Way ANOVA test result shows that there are no significant differences since the p value found to be ,56.
 - Participants were asked "If you had a choice, which environment would you prefer for this course?". Then, a comparison of mean was conducted

with the number of blended courses they took before, and findings are shown below:

- Result for 43 students who didn't take any blended course before is M=2,28 and SD=0,73.
- Result for 41 students who took only 1 blended course before is
 M=2,41 and SD=0,81.
- Result for 18 students who took 2 or more blended course before is M=2,11 and SD=0,74.

Chapter 5

DISCUSSIONS AND CONCLUSIONS

In this chapter the results discussions and conclusion of the study will be presented.

Discussions will be presented first and then conclusions will be presented.

5.1 Discussions

Aim of this study is to investigate the perceptions of students about the use of blended learning in computer literacy courses. This study conducted in the spring term of 2019-2020 Academic year at Eastern Mediterranean University (EMU). A descriptive research design was used in this study because researcher wanted to understand the participants' perceptions about blended learning environment.

A modified form of questionnaire that created by Nuray Gedik, Muhammet Yaşar Özden and Ercan Kiraz in 2010 was used in this study. This questionnaire was originally designed to collect data regarding the students' perception about the experiences they gained in the blended settings. After making minor changes on the questionnaire, it was distributed to the students of ITEC115 and ITEC190 courses in EMU to gather data for this study.

Findings show that in terms of Implementation and The Content of The Courses, Online Participation Through Skype For Business and Face-To-Face Courses, majority of the participants find nontraditional learning models (online learning & blended learning) more efficient for their computer literacy courses. Out of 102

participants, the number of participants who said they would prefer nontraditional learning models is 83 (81.4% of them).

5.1.1 Perception of the Students About the Implementation and The Content of The Courses, Online Participation Through Skype For Business and Face-To-Face Courses

5.1.1.1 Implementation and the Content of the Courses

Most of the students seem to be satisfied with the efficiency of the implementation and the content of the course. Participants were asked to rate "The instructor was using blended environment well." in the Part B of the questionnaire, and the results shows that (M=4,17) learners' perception regarding the implementation and the content of the courses is highly positive. Literature supports the findings of this study regarding the implementation and the content of the course (So & Brush, 2008).

5.1.1.2 Online Participation Through Skype for Business

93,1% of the participants evaluated their participation in the Skype environment of the course as "Very Active" or "Active Sometimes". Findings shows that students were attending Skype sessions because they liked attending class wherever they like. They think it is more practical and easier. However, some students said that they attend because they have to. Covid-19 pandemic might have effect on these results but it can be said that students liked online participation opportunity.

Majority of the students are quite satisfied with the Skype for Business. Results of the study conducted by Cloonan (2018) are similar. In her study, when students were asked to explain whether they felt isolated or not during online lesson, only 15% of them reported that they felt isolated. 68% of them disagreed or strongly disagreed with this item.

5.1.1.3 Face-to-Face Participation

When participants were asked "How do you evaluate your participation in the face-to-face environment of the course?", 36,3% of the participants evaluated their participation in the face-to-face environment as "Not at all" and 53,9% of them said "Active Sometimes". Results shows that this can be consequence of covid-19 pandemic.

Çetiz (2006) found that some students believe that face to face classes improved their motivation for studying online. They think that they should attend face to face classes so that they can keep up with the lessons better.

5.1.2 Perception of the Students About the Classroom Atmosphere, Advantages and Disadvantages

5.1.2.1 Classroom Atmosphere

According to So and Brush (2008), combining computer-based elements with face-to-face learning can give more chances for learners to engage with learning material, classmates, and educators. Perception of the participants about the classroom atmosphere in terms of blended learning is quite positive. Most of the students rated following items as either "strongly agree" or "agree"; "A rich communication and interaction environment were provided." (75,5%, 4,01). "I could actively participate in the course." (77,5%, M=4,00). It was good to have discussions both on the Web and in face-to-face environments." (77,3%, M=3,99). It seems like students had efficient classroom atmosphere.

5.1.2.2 Advantages of Blended Learning Environment

Students declared their opinions about the things that Blended Learning helped them learn their subjects the most. Their opinions indicated that there are so many

advantages that blended learning provided them with learning lesson. Features of Moodle such as sharing lecture notes, mock exam are helping students with learning their lesson topics. Also, advantage of being able to watch recorded lesson videos whenever they want was highlighted by students strongly. Results of Çetiz (2006)'s study indicates that students think opportunities like online assignments, and announcement were helpful, and also being able to repeat the course content was advantages of blended learning.

5.1.2.3 Disadvantages of Blended Learning Environment

Moreover, participants' perception regarding the disadvantages of the blended learning environment is mostly about technical issues and the problems that can be caused by the reason that it's their first time taking a blended learning style course. Students were complaining about the fact that they didn't get enough instruction on how to use resources. Moreover, students think that obligation to attend the classes is unnecessary because they think they can watch recorded lesson videos later. Furthermore, few students said that they felt lonely during lesson because they were attending online through Skype For Business. However, literature argue that. So and Brush (2018) declared that blended learning environment can be useful for minimizing psychological distance and enhance student satisfaction. This might be result of covid-19 pandemic which made it impossible for students to attend lessons physically. Therefore, students didn't even have chance to attend practical parts of the lessons.

5.1.3 Learners' Perceptions on Blended Learning Based on Their Gender

An independent t-test was used to assess on the participants' preferences regarding the learning model for this course based on their gender. Results of independent t-test shows that p value was ,005. Since p value is smaller than ,01, then it can be said that there is a statistically significant difference regarding the preferences of learners on

learning model based on their gender. Findings shows that male students favored blended learning more than female students did.

According to Dang, Zhang, Ravindran, and Osmonbekov (2016), findings of their study show that biggest difference among the mean data between male and female students was about computer self-efficacy (M=5.54 for males and M=5.13 for females). Furthermore, male students enjoyed the course they took which was Technology-Supported and in Blended Learning settings. However, results reveal that satisfaction of both male and female students is close to each other (M=5.01 for males and M=5.01 for females).

5.1.4 Perception of the Students Based on Type of High School They Graduated from, and Number of Blended Courses They Took Before

5.1.4.1 Type of High-school They Graduated

Findings of fourth research question indicates that there is marginally significant difference on the participants' preferences about learning model based on the type of high school they graduated. 45,7% of the participants who graduated from non-vocational high school chose blended learning for this course where only 19,6% of them chose face to face learning. Moreover, 80% of the participants who graduated from vocational high school preferred blended learning and 10% of them chose face to face learning. However, there was only 10 students who graduated from vocational high school. Therefore, results could vary with more equal group size of participants.

5.1.4.2 Number of Blended Courses They Took Before

Impressions of students who didn't take any blended learning course before still positive about blended learning model. Those participants have the mean (M=2,28) which shows that after their first impression on blended learning, when they were

asked about their preference for this course, most preferred options were online learning or blended learning. However, participants who has 1 blended learning experiences before has higher mean (M=2,41) than other students. 61% of them chose blended learning.

5.2 Conclusions

Blended learning has become much more important after the covid-19 pandemic period. In order to decrease the size of the classes, blended learning brings an important advantage. This advantage is that blended learning allows students to attend their lessons at their home or dormitory for the parts of the lesson which doesn't require any physical attendance. Theoretical parts of the lessons can be done in this way. Consequently, lab sessions and practical parts of the class can be conducted in much less class sizes.

This study shows the perceptions of the students regarding the blended learning in computer literacy courses. Findings that respond the research questions of this study will be presented in this section.

The questionnaire revealed the results of the first research question which was "What are the learners' perceptions regarding the blended learning in terms of (1) the implementation and the content of the courses, (2) online participation through Skype for Business, (3) face-to-face courses?" as followings:

 Perception of the participants regarding the implementation and content of courses was positive.

- Slightly more than every 9 students out of 10 said that they are attending skype sessions and majority of them declared that they find online participation easier and more flexible.
- 53,9% of the students said they were "Active sometimes" where 36,3% of them said "Not at all". Result could vary due to covid-19 pandemic.

Results of the second research question which was "What are the learners' perceptions regarding the blended learning in terms of (1) classroom atmosphere, (2) advantages, (3) disadvantages?" presented below:

- Perception of learners regarding the classroom atmosphere can be said as efficiently good.
- Findings show that blended learning provided many advantages such as sharing lecture notes, mock exam and recorded lessons.
- Students declared that technical issues and being new to blended learning were some of the disadvantages they faced.

Outcomes that fulfil third research question which was "Are there significant differences in the learners 'perception about blended learning based on their gender?" shown below:

• There is a significant difference regarding the participants perceptions.

Findings of the fourth research question which was "Are there significant differences in the learners' perception based on (1) the type of high-school they graduated, (2) the number of blended courses they took before?" presented below:

• There is marginally significant difference on the learners' preferences about learning model based on the high-school they graduated.

• Since the ANOVA test result shows that p value is ,56, no significant difference was found within the groups of the number of blended courses they took before.

REFERENCES

- Anderson, T. (2008). The theory and practice of online learning (2nd ed.). Athabasca

 University

 Press.

 https://auspace.athabascau.ca/bitstream/handle/2149/411/?sequence=1
- Argın, F. S. (2013). Examination of the attitudes of secondary and highschool students towards social media: Çekmeköy sample (Master's thesis, Yeditepe University, Istanbul, Turkey). Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=rcbWnuqW6HxCZ_98ARapgny_eYzE5pYusKOZW5KxR6Z5ckqpP7hGMoApkpdNZ1E_
- Aslantaş, T. (2014, April). Uzaktan eğitim, uzaktan eğitim teknolojileri ve Türkiye'de bir uygulama. Retrieved May 10, 2020, from https://www.tankutaslantas.com/wp-content/uploads/2014/04/Uzaktan-E%C4%9Fitim-Uzaktan-E%C4%9Fitim-Teknolojileri-ve-T%C3%BCrkiyede-bir-Uygulama.pdf
- Boldt, D. J., Gustafson, L. V., & Johnson, J. E. (1995). The internet: A curriculum warehouse for social studies teachers. *The Social Studies*, 86(3), 105-112. doi:10.1080/00377996.1995.9958380
- Bonk, C. J., & Graham, C. R. (2012). *The handbook of blended learning: Global perspectives, local designs*. John Wiley & Sons. https://books.google.com.tr/books/about/The_Handbook_of_Blended_Learning.html?id=2u2TxK06PwUC&redir_esc=y

- Bryman, A., & Cramer, D. (1997). Quantitative data analysis with SPSS for Windows:

 A guide for social scientists. Psychology Press.
- Çetiz, İ. D. (2006). Students' and instructor's perceptions of a blended course: a case study (Master's thesis, Middle East Technical University, Ankara, Turkey).

 Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=XohQ0H2mJnBfxL PsY8dG4-euVac1cdEXb1eZiCKTmFs_rmc7mjqQxGdUuqQ1p7ZY
- Cloonan, L. (2018). A critical evaluation of the integration of a blended learning approach into a multimedia applications module (Doctoral thesis, Galway-Mayo Institute of Technology, Galway, Ireland). Retrieved from https://research.thea.ie/handle/20.500.12065/2372
- Crawford, R. (2009). An Australian perspective: Technology in secondary school music. *Journal of Historical Research in Music Education*, 30(2), 147-167. doi:10.1177/153660060903000205
- Dang, Y., Zhang, Y., Ravindran, S., & Osmonbekov, T. (2016). Examining Student Satisfaction and Gender Differences in Technology-Supported, Blended Learning. *Journal of Information Systems Education*, 27(2), 119-130. Retrieved from https://pdfs.semanticscholar.org/6485/cc98d91c787207a0d17ae2bbdcfbd78ce 7a4.pdf

- Dağ, F. (2011). Harmanlanmış (Karma) Öğrenme Ortamları ve Tasarımına İlişkin Öneriler. *Ahi Evran Üniversitesi Eğitim Fakültesi Dergisi*, *12*(2), 73-97. Retrieved from http://kefad.ahievran.edu.tr/Kefad/ArchiveIssues/PDF/988eb643-5753-e711-80ef-00224d68272d
- Demir, A. (2016). Sosyal bilgiler öğretmen adaylarının eğitsel internet kullanımına yönelik özyeterlik inançları ile internet kullanımına ilişkin tutumlarının incelenmesi (Master's thesis, Giresun University, Giresun, Turkey). Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=OykDDeWBWTL9-Wm52sZBrMnRK4TZgqA0j1TN3CKObg4AvDXwbNlKR3VO0r_7Gc0g
- Ersoy, H. (2009). The preservice teachers' perceptions about online communication in blended learning: A case study (Doctoral thesis, Middle East Technical University, Ankara, Turkey). Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=NtBAevXNhYaNqJ FoAcdBdi9qucuxALBlZn0SxxNSc6WjuDrttTbuktTqpM1Eb9q0
- Garrison, D.R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7(2), 95-105. doi:10.1016/j.iheduc.2004.02.001
- Gedik, N. (2010). A design based research on the use of a blended learning environment (Doctoral thesis, Middle East Technical University, Ankara, Turkey).

 Retrieved from

- https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=ZeTyprYuef2HkaF3 xt4wYljkFuky6M19FRtXZ7yWIPO4AvvelTYMDkumdDAtqGqs
- Gedik, N., Kiraz, E., & Ozden, M. Y. (2013). Design of a blended learning environment: Considerations and implementation issues. *Australasian Journal of Educational Technology*, 29(1). doi:10.14742/ajet.6
- Gülbahar, Y. (2005). Öğrenme Stilleri ve Teknoloji. *Eğilim ve Bilim, 30*(138), 10-17.

 Retrieved from http://egitimvebilim.ted.org.tr/index.php/EB/article/download/4989/1096
- Holmberg, B. (2005). *Theory and practice of distance education*. Routledge. https://www.taylorfrancis.com/books/9780203973820
- Kerres, M., & Witt, C. D. (2003). A didactical framework for the design of blended learning arrangements. *Journal of Educational Media*, 28(2-3), 101-113. doi:10.1080/1358165032000165653
- King, F. B., Young, M. F., Drivere-Richmond, K., & Schrader, P. G. (2001). Defining distance learning and distance education. AACE journal, 9(1), 1-14.
- Kocaman Karoğlu, A. (2009). Students' perceptions and motivations of a blended course guided by good practice principles and motivation (Doctoral thesis, Middle East Technical University, Ankara, Turkey). Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=NtBAevXNhYaNqJ FoAcdBdiu9E9fISzBZiqYTCdxoNaI5EB1sBn7DwdEXBdUKms5I

- Kılınç, M. (2015). Uzaktan eğitim uygulamalarının etkililiği üzerine bir araştırma (İnönü Üniversitesi Uzaktan Eğitim Merkezi İlahiyat Lisans Tamamlama Programı örneği) (Doctoral thesis, Inonu University, Malatya, Turkey).

 Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=sY7m19PfcL6F1N Uw-cr80EI7VJGjFsIDJFQpG8bj7spGB3_vCwN5yxO4uFPErOhb
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies. Retrieved from U.S. Department of Education website: https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf
- Moore, M. G., & Kearsley, G. (2011). Distance education: A systems view of online learning.

 Cengage Learning.

 https://books.google.com.tr/books/about/Distance_Education_A_Systems_View_of_Onl.html?id=wXtsKAMiuAAC&redir_esc=y
- Mortera-Gutiérrez, F. (2006). Faculty Best Practices Using Blended Learning in E-Learning and Face-to-Face Instruction. *International Journal on E-Learning*, 5(3), 1-6 https://core.ac.uk/reader/71081266
- The Open University. (n.d.). Cronbach's Alpha Tutorial. Retrieved June 12, 2020, from

 https://www.open.ac.uk/socialsciences/spsstutorial/files/tutorials/cronbachs-alpha.pdf

- Özdan, Ş. (2018). The use of technology by teachers in education (Master's thesis, Bahçeşehir University, Istanbul, Turkey). Retrieved from https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=fS4sqEZr79C_n60R k6MjFZYu88VrHC4Y9TU8YnAfCW6R0JHZFjY0crkUys_7GwLH
- So, H., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers* & *Education*, 51(1), 318-336. doi:10.1016/j.compedu.2007.05.009
- Tanık Önal, N., & Gölgeli Söndür, D. (2017). Derslerde teknoloji kullanımı ve fen bilimleri dersinde animasyonları seviyorum! *The Journal of Academic Social Science Studies*, (55), 97-118. Retrieved from http://www.jasstudies.com/?mod=makale_tr_ozet&makale_id=28213
- Thyer, B. A. (2001). *The handbook of social work research methods*. Thousand Oaks, CA: SAGE Publications, Inc.
- Wilson, E. K., & Marsh II, G. E. (1995). Social Studies and the Internet Revolution.

 Social Education, 59(4), 198-202. Retrieved from http://www.socialstudies.org/sites/default/files/publications/se/5904/590402.html
- Yapıcı, K. (2019). Students' and instructors' perceptions on blended learning in an English preparatory program (Master's thesis, Karabük University, Karabük, Turkey).

 Retrieved from

https://tez.yok.gov.tr/UlusalTezMerkezi/TezGoster?key=Mir2lXQK1dkmQ9I ge3PZbtHiBeU2qKB9VHbNiCJwgTYBfheYkgiWsu1vDbgxxRP5

APPENDICES

Appendix A: Course Outline



DOĞU AKDENIZ ÜNIVERSITESI BİLGİSAYAR VE TEKNOLOJİ YÜKSEKOKULU BİLGİSAYAR TEKNOLOJİSİ VE BİLİŞİM SİSTEMLERİ DERS İZLEME PROGRAMI

Ders Kodu	ITEC115	Dönem	Güz / Bahar	Kredi	(2,2,0) 3
Ders Adı	Bilgisayara Giriş		ECTS Kredi	5	
Ders Sitesi	http:// emuonline.emu	u.edu.tr/dis	edcss	Önkoşul	-

	Öğretim Elemanları								
Öğretim Elemanı		Ofis No.	e-posta						
Esen Ertunga	Koordinatör	CT 210	esen.ertunga@emu.edu.tr						
Zafer Yuca		CT 208	zafer.yuca@emu.edu.tr						
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Cihan Ünal		CT 123F	cihan.unal@emu.edu.tr						

Ders Tanımı

Bu derste öğrenciye, bilgisayarın temel donanım birimlerinin ve işletim sistemlerinin tanıtılması, internet kullanımı hakkında bilgi verilmesi ve ofis programlarını kullanarak bilgisayarda doküman, elektronik tablo ve sunum hazırlamak için gerekli olan temel bilgi ve becerilerin kazandırılması amaçlanmaktadır.

Öğrenme Çıktıları

Dersi başarı ile tamamlamış öğrenciler

- Bilgi teknolojisinin temel kavramlarını kullanma,
- Temel seviyede bilgisayar donanımlarını bilme,
- İşletim sistemleri hakkında bilgi sahibi olma,
- Kelime işlem programı yardımı ile doküman oluşturma,
- Hesap çizelge programı yardımı ile elektronik tablo oluşturma,
- Sunum programı ile etkili sunum hazırlama,
- İnterneti kullanma,

yeterliliklerini kazanacaklardır.

Öğretim Yöntem ve Teknikleri

- Ders teorik anlatım ve bilgisayar uygulamaları şeklinde yapılacaktır.
- Dersi alan öğrenciler verilen görevleri yerine getirmekle sorumludur.
- Dersle ilgili tüm bilgiler (ders materyalleri, duyurular vb.) dersin sitesinde bulunacaktır. (http://emuonline.emu.edu.tr/disedcss)

Ders Materyalleri

Ders Kitabı:

Ö. Bağcı, Yeni Başlayanlara Bilgisayarın B'si, Seçkin Yayıncılık, 1. Baskı, 2010.

Yardımcı Kitaplar:

- i. Sarı, Ö. Bağcı, Bilgisayar 1, Seçkin Yayıncılık, 2. Baskı, 2007.
- N. U. İnan, Bilgisayar Okuryazarlığı, Morpa Kültür Yayınları, 1. Baskı, 2004.
- G. Ademir, Pratik Bilgisayar Kullanma Kılavuzu, Yakamoz Yayınları, 1. Baskı, 2006.

1. Hafta Ders İçeriği ve Web Sayfası Tanıtımı: Öğrencilere, ders planlaması hakkında bilgi verilir, web sayfası tanıtılır ve öğrenim materyalleri dağıtılır. Ders Takip Sistemi Uygulaması: Teorik derslerin takibi için kullanılacak uygulamala tanıtılır ve öğrencilere dağıtılır. Pilgiovera Giric Bilgisəyarın tanımı sayı sistemleri bilgisəyarın taribi bilgisəyarın	
tanıtılır ve öğrencilere dağıtılır.	
Pilgicayara Civica Pilgicayarın tanımı sayı sistemleri bilgicayarın taribi bilgicayarın	ar
3. Hafta Bilgisayara Giriş: Bilgisayarın tanımı, sayı sistemleri, bilgisayarın tarihi, bilgisayarla temel kullanım alanları, bilgisayar donanım ve yazılımları, temel bilgisayar türleri, bilgisayar ağları, bulut bilişim konuları hakkında bilgi sahibi olunur.	rın
4. Hafta Bilgisayar Donanımı: Sistem ünitesi, sistem ünitesindeki temel birimler, depolama birimleri, bellekler, iletişim birimleri, giriş ve çıkış birimleri konuları hakkında bilgi sahibi olunur.	
5. Hafta İşletim Sistemleri Ve Uygulama Yazılımları: İşletim sistemleri, işletim sistemi türle uygulama yazılımları konuları hakkında bilgi sahibi olunur.	ri ve
6. Hafta Bilgisayar Ağları Ve İnternet: Bilgisayar ağları, kablosuz ağlar, internet, web tarayı arama motorları, elektronik posta hizmeti ve internetin çalışma prensibi konuları hakkında bilgi sahibi olunur.	cıları,
7. Hafta Bilişim Teknolojileri: Bilişim sistemlerinde güvenlik, zararlı yazılımlar, korunma yöntemleri, bilgisayar ve sağlık ilişkisi, bilgisayar ve çevre ilişkisi, bilişim teknolojile etik ve gelişen teknolojiler konuları hakkında bilgi sahibi olunur.	rinde
8. Hafta Ara Sınav Haftası	
9. Hafta Ara Sınav Haftası	
10. Hafta Kelime İşlemciler 1: Kelime işlemciler, kelime işlemci örnekleri, dosya işlemleri, m biçimlendirme ve paragraf biçimlendirme konuları hakkında bilgi sahibi olunur.	etin
11. Hafta Kelime İşlemciler 2: Kelime işlemcilerde tablolar ile çalışma, belgeye eklenti yapm sayfa yapısı düzenleme ve belge yazdırma konuları hakkında bilgi sahibi olunur.	ıa,
İşlem Tabloları 1: İşlem tabloları, işlem tablosu örnekleri, dosya işlemleri, bilgi giriş yapma, formül ile hesaplama ve fonksiyonların kullanımı konuları hakkında bilgi sa olunur.	•
İşlem Tabloları 2: İşlem tablolarında hücre biçimlendirme, sayfa yapısı düzenleme, listeler ile çalışma, alt toplam hesaplamaları yapma, grafik oluşturma konuları hakl bilgi sahibi olunur.	
Sunum Programları: Sunum programları, sunum programı örnekleri, dosya işlemle slayt oluşturma, tema uygulama, geçiş efekti uygulama, animasyon uygulama, ekle yapma, asıl slayt kullanımı ve slayt gösterisi konuları hakkında bilgi sahibi olunur.	
15. Hafta Dönem Sonu Sınav Haftası	
16. Hafta Dönem Sonu Sınav Haftası	

Dersin Zorunlulukları

- Teorik olarak verilen bilginin, öğrenciler ile etkileşim halinde bilgisayarlı laboratuvar ortamında uygulanması zorunlu olduğundan dolayı ders saatlerine katılımın yanında tüm laboratuvar saatlerine de katılım mecburidir.
- Öğrenciler, katılamadıkları sınavlar için telafi sınavı alma hakları mevcuttur. Telafi sınavları, kaçırılan sınavdan en geç iki hafta sonra web sitesinde duyurulan saat ve yerde gerçekleştirilir. Öğrencilerin, kaçırılan sınavdan itibaren en geç üç iş günü içerisinde sağlık raporu sunma yükümlülüğü mevcuttur.
- Öğrenciler, dönem sonunda bütünleme sınavı alma hakkına sahiptirler. Öğrenciler, bütünleme sınavına üniversitenin belirlediği yönetmelik dahilinde öğrenci portalı üzerinden başvuru yaparlar.
- Öğrencilerin, sınav sonuçları açıklandıktan sonra bir hafta içersinde aldıkları nota itiraz etme hakları vardır. Bu süre sonunda herhangi bir itiraz dikkate alınmayacaktır.
- Tüm öğrenciler, dersin web sitesini ve bu sitede yapılacak olan duyuruları takip etmekle yükümlüdür.
 Web sitesi takip edilmediği takdirde yaşanacak kayıplar öğrencilerin sorumluluğundadır.
- Uzaktan eğitim modelleri kullanılarak servis edilen derslerin takibinde, aşağıdaki kriterlerin herhangi biri en az %50 oranında uygulandığı takdirde öğrencilere NG (devamsızlık) notu verilmez.
 - Derslerin sınıf ortamında takibinde,
 - Derslerin laboratuvar uygulamalarında,
 - Canlı yayınların, tekrar izle yayınlarının ve ders notlarının uzaktan erişiminde,
 - Ödev, proje vb. tesliminde.
- Uzaktan eğitim modelleri kullanılarak servis edilen derslerin takibinde, yukarıdaki kriterlerin herhangi biri %50 oranında uygulanmadığı takdırde ise öğrencilere NG (devamsızlık) notu verilebilir.

Değerlendirme Yöntemi							
Değerlendirme Uygulamalar Yoklama Ara Sınav Dönem Sonu Sınavı							
Yüzdelik	%20	%5	%35	%40			

Harf Sistemi											
Α	A-	B+	В	B-	C+	С	C-	D+	D	D-	F
90 -100	85 - 89	80 - 84	75 - 79	70 - 74	65 - 69	60 - 64	56 - 59	53 - 55	50 - 52	40 - 49	0 - 39

Appendix B: Students' Perceptions Questionnaire

ÖĞRENCİLERİN BİLGİSAYAR OKURYAZARLIĞI DERSLERİNDE HARMANLANMIŞ ÖĞRENME KULLANIMI HAKKINDAKİ ALGILARI ANKETİ

Bu anket, yüz yüze ve çevrimiçi (online) ortamların birlikte kullanıldığı derste yaşamış olduğunuz deneyimlere yönelik düşüncelerinizi öğrenmek amacıyla hazırlanmıştır. Kimlik bilgilerinizi yazmak zorunluluğu olmadığı için vereceğiniz yanıtlar saklı tutulacak ve herhangi bir şekilde sizin değerlendirilmeniz amaçlı kullanılmayacaktır. Bu çalışmaya vereceğiniz içten ve samimi yanıtlarınız için şimdiden teşekkür ederiz.

Orijinal çalışma Nuray Gedik, Muhammet Yaşar Özden ve Ercan Kiraz tarafından 2010 yılında hazırlanmış ve "Karma Öğrenme Ortamı Kullanımı Üzerine Tasarım Tabanlı Bir Araştırma" başlıklı doktora tezinde geliştirilip kullanılmıştır.

Arş. Gör. Mevlüt Elmas

Prof. Dr. M. Yaşar ÖZDEN

A.	KİŞİSEL B	İLGİLER							
1.	Cinsiyetiniz:	☐ Erkek	☐ Kadın						
2.	Bilgisayar-ele	ktronik müfredatlı	bir okuldan mı n	nezun oldunuz?					
	Evet (Meslek	Teknik lise, vb.)	☐ Hayır (Genel	Lise, Anadolu/Fen/Ö	ğretmen Lisesi, vb.)				
3.	Kendinize ai	it, Skype Kurumsa	l'1 kullanabileceğ	iniz bilgisayar/akıllı t	elefonunuz var mı?				
	□ Var □	Yok							
	3.1 Eğer varsa, yaşadığınız yerde (ev, yurt vs) internet bağlantınız var mı?								
	□ Var	☐ Yok							
 4. 5. 		Cep telefonu Kişisel bilgis Yurt laboratu Bölüm bilgis	ayar ıvarları ayar laboratuvarl belirtiniz :	arı	n sık, 2-orta sıklıkta, 3-nadiren, 4-hiç)				
	☐ Hiç	☐ Hafta	ada 1-2	☐ Haftada 3-4	☐ Haftada her gün				

6.	Bu derste yaşamış	olduğunuz deney	yimi tek bir sözcü	k ile nasıl ifade ed	erdiniz?
Ne	denini açıklar mısınız?				
7.	Dersin Skype ortamında	ki katılımınızı n	asıl değerlendiriy	orsunuz?	
	☐ Hiç aktif değildi	m	☐ Bazen aktiftin	1	☐ Çok aktiftim
Çü	nkü				
8.	Dersin yüz yüze ortamır	ndaki katılımınız	ı nasıl değerlendi	riyorsunuz?	
	☐ Hiç aktif değildi	m	☐ Bazen aktiftin	1	☐ Çok aktiftim
Çü	nkü				
9.	Şimdiye kadar kaç tane	karma (yüz yüze	e ve WEB ortamı	birlikte) ders aldın	1Z?
	□ Hiç	1	□ 2	☐ 3 veya daha fa	zla
10	Seçme şansınız olsaydı,	bu ders için han	gi ortamı tercih e	derdiniz?	
	☐ Yüz yüze				
	☐ İnternet ortamı((Office 365 (Sky	pe) ve Moodle)		
	☐ Karma (Yüz yü	ze ve Office 365	(Skype) ve Moo	ile)	
Çü	nkü				
-					

B. KARMA ORTAMIN OLASI (MUHTEMEL) OLUMLU ÖZELLİKLERİ

Aşağıda karma öğrenme ortamının bazı özellikleri sıralanmıştır. **ITEC 115 dersindeki karma** öğrenme ortamını düşünerek aşağıdaki ifadelerden size en uygun olanını işaretleyiniz (☑)

	Kesinlikle Katılmıyorum	Katılmıyorum	Karasızım	Katılıyorum	Kesinlikle Katılıyorum
Derse karşı motivasyonum yüksekti.	K	Ž.		*	*
Dersteki kaynak ve materyaller zengindi.					
Zengin bir iletişim ve etkileşim ortamı sağlanıyordu.					
Derse (Web ya da yüz yüze ortamlarda) aktif olarak katılabiliyordum.					
5. Tartışmaların hem Web hem de yüz yüze ortamlarda olması iyiydi.					
6. Dersin işlenişinde benim isteklerim ve beklentilerim göz önüne alınıyordu.					
7. Yüz yüze ortam ile Web ortamındaki etkinlikler birbirini destekliyordu.					
8. Sınıf arkadaşlarımdan (Web ya da yüz yüze ortamlarda) bir şeyler öğrenme olanağı sağlanıyordu.					
9. Derslerde öğrendiklerimi/düşüncelerimi (Web ya da yüz yüze ortamlarda) ifade edebilme olanağı sağlanıyordu.					
10. Zamanında dönüt (feedback) alabiliyordum.					
11. Farklı ders konuları (eğitim, psikoloji, teknoloji vs) ile de ilgilenme olanağı sağlanıyordu.					
12. Yüz yüze derslerde öğrendiklerimi Web ortamında tekrar etme olanağı sağlanıyordu.					
13. Web ortamında öğrendiklerimi yüz yüze derslerde tekrar etme olanağı sağlanıyordu.					
 Çeşitli öğretim yöntemlerinin (soru-cevap, işbirlikçi öğrenme, forumda tartışma vs) kullanılmasıyla derse katılımım destekleniyordu. 					
15. Dersteki etkinliklere (ödevler) kendimden bir şeyler katma olanağı sağlanıyordu.					
16. Yüz yüze ve Web ortamlarındaki değerlendirme birbirini destekliyordu.					

17. Verilen ödevleri yapabilmek için çeşitli kaynakları incelemek yoluyla farklı perspektifler geliştirebiliyordum.		
18. Derste öğrendiğim bilgileri çeşitli aktivitelerle (ödev, vb) uygulama şansı buluyordum.		
19. Yaptığım aktivitelerde gerçek hayatta karşılaşabileceklerime yönelik dönütler alabiliyordum.		
20. Öğretim elemanı karma ortamı iyi kullanıyordu.		
21. Öğretim elemanıyla (Web ya da yüz yüze ortamlarda) iletişim ve etkileşimim verimliydi.		
22. Sınıftaki diğer arkadaşlarla (Web ya da yüz yüze ortamlarda) etkileşim ve iletişimim verimliydi.		
23. Karma öğrenme ile kendi öğrenme yöntemlerimi (okuma, dinleme, anlatma, uygulama, tartışma, vs) kullanabileceğim bir ortam sağlanıyordu.		

C. KARMA ORTAMIN OLASI (MUHTEMEL) OLUMSUZ ÖZELLİKLERİ

Aşağıda karma öğrenme ortamının bazı özellikleri sıralanmıştır. **ITEC 115 dersindeki karma öğrenme ortamını düşünerek** aşağıdaki ifadelerden size en uygun olanını işaretleyiniz (☑)

	Kesinlikle Katılmıyorum	Katılmıyorum	Karasızım	Katılıyorum	Kesinlikle Katılıyorum
Ders için yeterli motivasyonum yoktu.					
Karma ortam öğrenme yöntemlerime (okuma, dinleme, anlatma, uygulama, tartışma, vs) uygun değildi.					
3. Dersin Web sayfasını kullanırken teknik sorunlar yaşadım.					
Dersin Web sayfasını kullanma konusunda yeterli teknik destek sağlanmıyordu.					
5. Yüz yüze ve Web ortamı birlikte olunca çok zaman kaybı/sorunu oluyordu.					
6. Karma öğrenme ortamı bu dersin içeriğine uygun değildi.					
7. Dersteki etkinlikler ve materyaller zengin değildi.					
8. Web ortamı ile yüz yüze ortam arasında uyumsuzluk/kopukluk vardı.					

_			ders ko	onuları
	rını açık	rını açıklar mısı	rını açıklar mısınız?	öğrenme ortamlarının ders ko

3. Dersteki karma öğrenme ortamının daha etkili hale getirilmesi için önemli olduğuna inandığınız önerilerinizden <u>üç</u> tanesini gerekçeleriyle yazar mısınız?

 $2.\ Yine\ deneyimlerinizden\ yola\ \varsigmaıkarak,\ karma\ \ddot{o}\ \ddot{g}\ renme\ ortamlarının\ zorluklarını\ açıklar\ mısınız?\ (Dersi$

öğrenmede karma ortamdan kaynaklanan zorluklardan bahsedebilir misiniz?)

4. Bundaki sonraki derslerinizde karma ortam kullanılmasını ister misiniz? Neden?
5. Geleceğin meslek sahipleri olarak, gideceğiniz okullarda karma ortamda ders verip-vermeme konusundaki
düşüncelerinizi yazar mısınız? ☐ Verirdim. Çünkü,
□ Verirdim. Çünkü,
□ Verirdim. Çünkü, □ Vermezdim. Çünkü,
□ Verirdim. Çünkü, □ Vermezdim. Çünkü, □ Karma ortam kullanılması için sizce hangi koşulların olması gerekir?

Araştırmaya katılımınız için çok teşekkür ederiz ©

Appendix C: Ethics Committee Approval



Eastern Mediterranean University

"Virtue, Knowledge, Advancement"

99628, Gazimağusa, KUZEY KIBRIS / Famagusta, North Cyprus, via Mersin-10 TURKEY Tel: (+90) 392 630 1995 Faks/Fax: (+90) 392 630 2919 E-mail: bayek@emu.edu.tr

Etik Kurulu / Ethics Committee

Reference No: ETK00-2020-0117

03.04.2020

Subject: Your application for ethical approval.

Re: Mevlüt Elmas

Faculty of Education.

EMU's Scientific Research and Publication Ethics Board (BAYEK) has approved the decision of the Ethics Board of Education (date: 27.03.2020, issue: 2020/67) granting Mevlüt Elmas from the Faculty of Education to pursue with his MA thesis work titled "Perceptions of Students' About the Use of Blended Learning in Computer Literacy Courses" supervised by Prof. Dr. Muhammet Yaşar Özden.

Prof. Dr. Yücel Vural

Chair, Board of Scientific Research and Publication Ethics - EMU

YV/ns.

www.**emu.**edu.tr

Appendix D: Participants' Original Responses in Turkish

Some of the responses of participants regarding the online participation through Skype for Business:

- "Katılım kolay sağlanıyor"
- "Evden katılım çok rahat"
- "Pratik olduğu için her derse katıldım"
- "Ben daha etkin kullanabiliyorum"
- "Çünkü böyle ders dinlemek daha kolay"
- "Zamanı verimli kullanan bir yöntem kullanılarak işlendi dersler"
- "Hem katılım zorunluydu, hem de skypetan dinlemek daha kolay"
- "Çünkü derslere katılıyorum"
- "Dersleri buradan takip edebiliyoruz, çünkü evden çıkamıyoruz"
- "Katılım zorunlu ve okular kapalı"
- "Bazen bilgisayar bulamıyorum"
- "Bazen internet yüzünden bağlanamadım"
- "Bazen internetim yok ve katılamayabilirim"

Some of the responses of participants regarding the Face-to-Face Participation:

- "Derslere ilk başlarda geldim ama sistemi öğrendikten sonra gelmedim."
- "İlk başta geldim, sistemi öğrenince gelmedim hem okullar kapalı"
- "İnternet varken yüz yüze gereksiz"
- "Çünkü internetten yararlanıyorum"

- "Online katılmak daha pratik"
- "Uzaktan takip etmek daha kolay."
- "Skype olduğu için"
- "Dersimize sanal ortamdan katılabileceğimizi söyledikleri zamandan itibaren internetten katılıyorum. Erkenden kalkıp hazırlanmak, kahvaltı edip fakülteye yürümek yerine(o kadar koşuşturmaya girmek yerine) hocalarımın sunduğu bu avantajı kullandım. Sadece lab derslerine katıldım yapamadığım bir şey olursa hocamın yardımına başvurabilmek içindi."
- "Arada gidiyordum ama Türkiye'de olduğum için hiç gitmiyorum artık"
- "Çünkü arada soru sormam gerektiği için giderdim ama okullar kapandı"
- "Çünkü korona hastalığından dolayı yüz yüze eğitim göremiyoruz"
- "Okullar kapanmasa gelirdim derslere"
- "Sorulan sorulara yanıt vermeyi ve konuşmayı seviyorum."
- "Virüsten dolayı yüz yüze derslere çok az katılabildim"

Some of the responses of participants regarding the Advantages of Blended Learning Environment:

- "İnternetten izledikten sonra öğrendiklerimizi uygulamak"
- "Pratik bir şekilde öğrenme ve uygulama"
- "Teoride gördüklerimizi pekiştirmek adına faydalıydı"
- "Aynı zamanda hem dersi takip edip hem de uygulamasını yapabiliyordum"
- "Deneme sınavları"
- "Moodle'daki videolar"
- "Deneme sınavları ve ders kayıtlarını izleyebilmek"
- "Tekrar izleyebildiğim videolar"

- "Tekrar dinleme firsatım oldu"
- "Tekrardan videoları izleyip sınava hazırlanmak güzel oluyor"
- "İnternet ortamında online ders yapmayı öğrendim."
- "Yoğunluğumuz koşuşturmamız gerginliğimiz azalacak. Bir fakülteden çıkıp koştura koştura yetişmek, sabahtan kalkıp aç bir şekilde derslere koşmak, bazen hastayken ya da ruhen çökükken bu yoğunluğu gerçekleştirmek yerine bir dersten çıkıp sonraki derse online olarak katılmak çok rahatlatıcı olur bence. Örneğin SBF'nde dersten çıkıp bahçede bir şeyler atıştırırken ITEC115 dersine katılıp Ders bitiminde tekrar SBF'deki dersimize gelmek biraz nefes almamızı sağlayabilir"

Some of the responses of participants regarding the Disadvantages of Blended Learning Environment:

- "Ara sıra sistemden düşebiliyorum"
- "Bazen ses net gelmiyor ve hocayı duyamıyorum. Tekrar videoyu izlemek zorunda kalıyorum"
- "İnternet bağlantımızda bazen sorunlar olabiliyor"
- "İnternet kopuyor, hocayı doğru düzgün anlayamıyorum. Not almak zor."

 Hocaya bir şey sormak zor."
- "1-Yeterli kaynak (Bilgisayar)yok. 2-İnternet yavaş ve maddi açıdan yeterli değil. 3-Verilen ödevler herkese uygun değil 4- Derslerde sistemden düşmemiz 5-Herkes tam kaynakları kullanmayı bilmiyor. 6-En önemlisi sınavlarda yaşadığımız sıkıntı"
- "Bazen yüz yüze eğitimde aklımıza takılanı daha kolay sorup yanıt olarak daha etkili yanıt aldığımız için web sitesinde bu biraz daha zor olabilir"

- "Katılım zorunluluğu bazen sıkıcı olabiliyor"
- "Devam zorunluluğu"
- "İnternet ortamı olunca odaklanma sorunu yaşıyorum bazen"
- "Moral motivasyon istek ders çalışma isteği odaklanma yok"
- "Odaklanma sorunları ve kendini yalnız hissedip sıkılma"
- "Alıştığım bir öğrenim biçimi olmadığından öncelikle nasıl not çıkaracağımı nasıl derse çalışmam gerektiğini çözememiştim ama bulunduğumuz salgın döneminde online eğitime geçince aslında dersin düşündüğüm kadar beni zorlamayacağını edindiğim deneyimler ve bilgisayarı daha verimli nasıl kullanacağımı öğrendikçe anladım."
- "Bazen dikkatim dağılabiliyor"
- "Bazen odaklanma sorunu yaşıyorum bu da etkiliyor dersleri"
- "Bazen ortam müsait olamayabiliyor odaklanma problemi yaşanabiliyor"

Appendix E: Turnitin Originality Report

Mev	lutE_18500	180_04_08_202	0_v10	
ORIGINA	ALITY REPORT			
1 SIMILA	3% RITY INDEX	7% INTERNET SOURCES	3% PUBLICATIONS	10% STUDENT PAPERS
PRIMAR	Y SOURCES			
1	Submitted Student Paper	d to Anadolu Uni	iversity	1%
2	etd.lib.me	etu.edu.tr		1%
3	Submitted Student Paper	d to Middle East	Technical Univ	versity 1 %
4	Submitted Student Paper	d to Bahcesehir	University	1%
5	Submitted Philippine Student Paper	d to Technologic	al Institute of th	ne <1%
6	Learners' Blended I Technical	us , Khadijah Ho Perception and Learning Enviror I Education Conf (: Scientific Pub	Performance in ment in Sauditext", King Abd	n \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
7	es.scribd.	.com		<1%