STUDENTS' AND INSTRUCTOR'S PERCEPTIONS OF A BLENDED COURSE : A CASE STUDY

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Approval of the Graduate School of Natural Applied Sciences.

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ABSTRACT

STUDENTS' AND INSTRUCTOR'S PERCEPTIONS OF A BLENDED COURSE : A CASE STUDY

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This study analysed the students' perceptions about the web based instruction in a blended learning environment. Students' perceptions, expectations and comments about their blended learning experiences, course web site and their communication experiences with the instructor were investigated.

This case study was conducted within the Information Technology in Education II Course (CEIT 112). This course was delivered for the undergraduate course at the Computer Education and Instructional Technology Department (CEIT), Middle East Technical University, during the 2004-2005 Spring semester. Number of the participants was 25 and all of them were first year CEIT students. This course was delivered as a blended learning which combined face-to-face instruction with the web based instruction.

The questionnaire was used to identify the students' perceptions about the web based course at the end of the semester. Interviews were conducted at the end of the semester in order to take students' comments, expectations and recommendations with respect to the course. Also, an interview was conducted with the instructor to identify his perceptions about the blended instruction experiences at the end of the semester.

Both quantitative and qualitative data were gathered at the end of the semester. Data results showed that students had positive perceptions about the blended learning environment and to some extent neutral about the effectiveness of the course website. According to the instructor's point of view, the blended learning was beneficial for the students, but the efficient utilization of computer mediated communication would be better supported.

This study can contribute the following research studies related with the blended learning. Also, the instructor of the course can benefit from this research result in order to improve the productivity of the course for the next terms.

Keywords:
Blended learning, web-based instruction, computer mediated communication, online learning, students' perceptions.

ÖZ

ÇEVRİM İÇİ ÖĞRETİM VE GELENEKSEL ÖĞRETİMİN HARMANLANDIĞI BİR DERSTE ÖĞRENCİ VE ÖĞRETMEN GÖRÜŞLERİ : BİR DURUM ÇALIŞMASI

Çetiz, İlknur Deniz
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Bu çalışma ile öğrencilerin harmanlanmış öğrenim ortamında, web-tabanlı öğretim ile ilgili algıları analiz edilmiştir. Öğrencilerin, harmanlanmış öğrenim deneyimleri, ders web sayfası ve ders öğretmeni ile iletişim düzeyi hakkındaki görüşleri, beklentileri, yorumları incelenmiştir.

Bu durum çalışması 2004-2005 öğretim yılı bahar döneminde, Orta Doğu Teknik Üniversitesi (ODTÜ), Bilgisayar ve Öğretim Teknolojileri Eğitimi (BÖTE) Bölümü'nde verilen Bilgi Teknolojileri ve II (CEIT 112) lisans dersinde yürütülmüştür. Çalışmaya 25 adet birinci sınıf BÖTE Bölümü öğrencisi katılmıştır. Ders geleneksel yüzyüze öğretimin web destekli öğretimle harmanlanması ile verilmiştir.

Dönem sonunda derse katılan öğrencilerin web tabanlı öğretim hakkındaki görüşlerini belirlemek için anket uygulanmıştır. Bunun yanında, öğrencilerle görüşme yapılarak onların ders hakkındaki yorumları, beklentileri ve tavsiyeleri alınmıştır. Ayrıca, ders öğretmeni ile de görüşme yapılarak kendisinin harmanlanmış öğretim ile ilgili görüşleri belirlenmiştir.

Dönem sonunda hem nicel hem de nitel veriler toplanarak analiz edilmiştir. Veri sonuçlarına göre öğrencilerin harmanlanmış öğretimle ilgili algılarının olumlu olduğu diğer yandan dersin web sitesinin etkililiği konusundaki algılarının kararsız olduğu belirlenmiştir. Ders öğretmeninin bakış açısına göre harmanlanmış öğrenim öğrenciler için yararlı olmuş ama bilgisayar destekli iletişimin daha etkili kullanılması için öğrencilerin daha çok desteklenmesi gerektiğini belirtmiştir.

Bu çalışma, harmanlanmış öğretimle ilgili ilerde yapılacak araştırmalar için katkı sağlamak ve dersi vermekte olan öğretmenin bu çalışma sonuçlarından faydalanarak gelecek dönemlerde dersin verimliliğini arttırabilmek için kullanılabilmesinde yararlı olabilir.

Anahtar Kelimeler:
Harmanlanmış öğrenim, web-tabanlı öğretim, bilgisayar destekli iletişim, online öğrenim, öğrenci algıları.

To My Dear Family

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INTRODUCTION

1.1 Background of the Study

The effects of the information technology increase significantly among different institutions of society with respect to the changing needs and conditions of the current century. The education system can meet these needs by preparing the students as the member of the information society. People have to adapt the changing standards of the modern society as well as participating in changing society itself by educating themselves with the use of appropriate information technology (Sakamato & Miyashita, 1986).

Technology and its applications can provide opportunities to access, evaluate, and communicate knowledge. Integrating technology into instruction has the power to improve teaching and strengthen learning. The advances in technology enable the use of Internet as a medium for teaching and learning. Most of the universities and institutions which give traning service use computer networks as a supplementary with traditional classroom experiences (Rudestam & Read, 2002).

New emerging technologies especially the Internet is changing the nature of society in ways that the users can reach information at any time from any place (Aggarwal & Bento, 2002). The Internet is an evolving medium used for information transmission and communication among a large network of users. According to the Internet World Statistics, now the number of people using the Internet is 1, 076, 203, 987. Moreover, according to these prediction the internet usage growth is approximately 200% between 2000 and 2006.

These rapid growth in computers and telecommunications technology in recent years has influence on the development and the delivery of instruction (Aggarwal & Bento, 2002). Universities and colleges face the greatest challenge that is the importance of maintaining or enhancing the quality of teaching and learning. Using technology in education and the improvement of the Internet in particular can change the educational system (Bates, 2003). So, this leads tremendous opportunities for universities to enrich the learning environment based on the subject matter and teaching method. Most educational institutions consider the World Wide Web in some way to enhance classroom instruction (Parikh, 2003). Owston(1997) stated that 'Nothing before has captured the imagination and interest of educators simultaneously around the globe more than the World Wide Web' (p.27). The internet supports both the early technologies, incluiding audio, video, and videoconferencing and new technological opportunities that can be used in many aspects of education. (Huerta, Ryan, & Igbaria, 2003). Web-based learning (WBL) is defined as the use of Internet technologies to deliver instruction. WBL can be accepted as a new phenomenon to some extent that combines the previously seperated domains which are experienced within the education and technology (Parikh, 2003).

Bates and Poole (2003) stated the several key factors which can be considered for quality in technology enhanced instruction:

- Content
- Course or program planning
- Instructional design
- Media production
- Support and moderation of the learning experience
- Student administration
- Course or program evaluation and maintenance.(p.23)

The appropriate combination of context of the students, the subject matter features, and available resourses provide the continium of well established technology-based education. University and college teachers should learn how to use technology in instruction appropriately and the institutuions should look for ways to promote the use of learning technologies effectively (Bates & Poole , 2003).

Using technology in education should provide some requirements. When technology is used without proper feedbacks, there arises a need to inform and support its success. It is obvious that teachers should be sensitive and interested with different impacts of technology (such as Web) on learners and their learning processes in order to accomplish its implementation successfully (Oliver & Omary, 2001).

Wang and Newling (2002) stated that 'without maintaining high degree of student interactivity, Web instructors are risking the possibility that there will be a lack of motivational and emotional involvement on the part of their cyberstudents' (p. 326). According to Wang and Newling (2002), in Web-based learning, learners should be given every opportunity to interact with peers, instructor(s), guest experts and the instructional material itself. So, instructor should provide clear instruction and guidance on how to do so within the context of available Web-based learning tools and techniques. To some extent, face-to-face instruction is desired to handle the lack of interaction and obtain the instructional goals.

Innovative uses of technology have begun to close the distinctions between face-to-face instruction and distributed learning environments (Osguthorpe& Graham, 2003). Bates (2000) proposed that:

> Distance learning can be accepted as a continuum. At one end of the continuum, technology is used to supplement a somewhat reduced face-to-face teaching load, with significant elements of the learning conducted through the technology by learners working on their own (or in small groups around the same computer). At the other end of the continuum, learners study completely off campus (distance learning) (p. 27).

Graham (2005) reflects the idea that blended learning is the combination of instruction which are historically seperated forms of teachning and learning systems: traditional face-to face instruction and distributed learning system. Also, the central role of computer-based technologies is emphasized in blended learning. There are both advantages and disadvantages associated with these learning systems. Traditional learning requires specific time and location. On the contrary, distance learning system offers flexibility in both these factors. Isolation from other learners and the instructor during the distance learning process can decrease the motivation and even this leads to learners to leave the course without completing it all (Islam, 2002). In face-to-face instruction, interaction occurs both between learners and between learner and instructor. Not only the interaction, but also the communication includes two directions; verbal comments as well as nonverbal cues. In order to bring traditional instruction and distributed learning into balance, one of the more recent trend in education is combining the best of these learning environments to create a blended learning. (Osguthorpe & Graham, 2003).

1.2 Purpose of The Study

This case study is conducted to examine learners' perceptions about the blended CEIT112 course with respect to their blended learning experiences, the course web site, and communication experiences with the instructor. CEIT112 course which was offered to the first year university students of the department of Computer Education and Instructional Technology in the Middle East Technical University (Turkey). This course is designed as a blended learning experience which includes both web-based learning environment and face-to-face instruction. The ultimate goal of this study is understanding students' perceptions toward this blended learning environment. Later the results of this study may contribute to the field that can guide and direct the process of developing better implementations of blended instruction.

1.3 Research Questions:

This study was designed to answer the following questions:

1. What are students' perceptions with respect to the blended course?
    a. What are the students' perceptions about their learning experiences in blended learning environment?
    b. What are the students' perceptions about the course web site?
    c. What are the students' perceptions about their communication experiences with the instructor?

1.4 . Significance of the Study:

Universities can not ignore the advantages of computer technology to create rich learning environments. Instructors benefit from using available computer-centered technologies, such as web-based learning environment to redesign their way of teaching by combining face-to-face instruction with new online learning activities. When face-to-face instruction is supported

with web-based environment, the most effective instructional aspects of traditional classroom comes together with the most effective instructional aspects of the virtual classroom. This can lead to a highly effective delivery of instruction (Garnham & Robert , 2002).

The findings of this study will be used in order to provide an indepth view of web-based learning environment supporting face-to-face instruction from the learners' perspective. This valuable information can be well noted by faculty members who wish to design courses that attract and retain learners' attention. Also, instructors and administrators can assess learners' achievement throughout the course and perceptions in order to remove shortcomings and create better learning environment.

On the other point of view, learners are in the central point of this investigation and they can take the advantage of this position. Learners have a great opportunity for personal relevance in what they learn, what their learning experiences are, what they expect and what they find, the weaknesses and strengths of the blended learning environment at all. So, learners keep in mind their self learning experience to develop their way of learning strategy for other following web-based courses. Also, instructors consider learners' needs, criticisms and recommendations in order to reshape their instructional strategies for the further blended instruction.

Unfortunately there is a lack of emprical data on web-based pedagogy, and without an understanding of Web-based instruction and learning there is the danger that Web-based course design becomes driven by technology rather than pedagogy (Trapp, Hammond, & Bray, 1996). So, this study was significant that educators and administrators identify their learning system in order to enhance student achievement and improve student satisfaction regarding the overall aspects of this web-based course.

1.5 Definition of Terms

Traditional Education

Traditional Education refers to enrollment and study within a physical building at a specific time where students meet face-to-face with their instructor in educational organization (school, university, and training service).

Information Technology

Includes all matters concerned with the furtherance of computer science and technology and with the design, development, installation, and implementation of information systems and applications

Computer-Mediated Communication

Computer-Mediated Communication(CMC) is any form of communication between two or more individual people who interact and/or influence each other via separate computers through the Internet or a network connection.

Asynchronous Communication

Two-way communication in which there is a time delay between a message being sent and received. E-mail is an asynchronous means of communication .

Synchronous Communication

Communication happening online between two or more people at the same time, but not necessarily in the same place. The most frequently used form of synchronous communication is online chat. Audio and video conferencing, instant messaging, and white boards are other examples.

Web

A graphical environment on computer networks that allows you to access, view, and maintain documents that can include text, data, sound and video.

Blended Learning

Blended learning is the combination of traditional face-to-face instruction and distributed learning systems.

Face-to-Face Instruction

A course delivered via face-to-face sessions with the instructor and students present simultaneously.

Student Satisfaction

Student contentment with course delivery systems provided compared to student expectations of those systems.

Web-based Instruction

Using web-based tools, such as World Wide Web pages, emails, chat and forums to develop learning activities for supporting meaningful learning.

Distance Learning

'Instructional interactions in which the teacher and learners are seperated by time, space, or distance' (Driscoll, 2002, p.330).

E-Learning

Any technologically mediated learning using computers whether from a distance or in face-to-face classroom setting.

Interactivity

'The ability to provide control, direct attention, and coordinate the communication among the students, instructor, and the content'(Driscoll, 2002, p.332).

CHAPTER 2

LITERATURE REVIEW

In this chapter, literature related with the following topics are reviewed: Technology in education, web based instruction, computer mediated communication, blended learning and research studies related to the study.

2.1 Technology in Education

The lifelong learning is the most respectable phenomenon of this era. This concept defines those who want or need to learn through out the life cycle. Also, with respect to this concept the diversity, flexibility and accessibility is demanded to help individuals access education when and where they want it (Gandel, Katz & Metros, 2004). Education is concerned with providing people with the power to use the world's knowledge in meaningful and productive ways. So, a student's education should involve both factual knowledge and conceptual understanding as well as the ability to apply that information. This requires each student's active participation in learning environment. It is important to support students' learning in an efficient and effective manner. For this is to be achieved, it is reasonable to remove instructor's some of workload by making use of computer-assisted learning tools. (Hague& Benest, 1996).

‘Technology can change not only the way we -instruct- but also the way we manage and support teaching and learning’ (Smith, 2004, p.50). Institutions with large class conventional teaching methods should prefer either to use educational technology as a lever to change the range of educational services offered, or to transform the traditional metaphor of the teaching and learning process to one more in tune with the information age. Higher education institutions should consider the technological innovations with respect to their educational needs (Papo, 2001). Bates(2000) classified three reasons why there is currently pressure on higher education institutions to change:

- The need to do more with less
- The changing learning needs of the society
- The impact of new technologies on teaching and learning (p.,8).

Abelle (1973) noted that instructional technology may be accepted as the whole range of communications media available in order to support the traditional approach to the teaching and learning process. According to this view, the teacher, textbook, and blackboard are combined with proper technology to improve the efficiency and effectiveness of the educational system.

Technology enables instructors to do things differ from a traditional classroom setting. Probably the most challenging issue for instructors in using technology is thinking creatively about how technology can be used for teaching and learning (Bates & Poole, 2003). Technology could be used for different aims, there are some instances how could technology be used to:

- Improve the quality of learning
- Achieve new or different learning goals appropriate to the specific needs of individual learners.
- Reach out to new markets
- Provide more flexibility both to students and the teacher

- Use teaching time more effectively and control workload
- Ensure the best combination of face-to-face and technology-based teaching for different subjects and audiences (Bates & Poole, 2003, p.128).

Santovec (2002) pointed out that;

> Introducing technology in a classroom often tends to ultimately require more, rather than less, from teachers especially in terms of innovative learning methods. Yet, there is widespread pressure on educational providers to move beyond the traditional classroom's whole group instruction and into technology-assisted, individualized instruction (p.5).

Most of the educational innovations using technologies have applied two main approaches in order to enrich students' learning. One approach prefers mainly computer systems and tools to support and sustain student achievement, on the other hand the other approach restructures both the curriculum and the way teachers work with each other and their students (Chen & Looi, 1999).

Taylor (2003) stated that incorporating significant digital technology into learning is likely to have many positive implications. One of them is the changing role of the instructor. The instructor's role will transform from the traditional to more manageable, useful role of coach. Technology offers the learner many viable and rich alternative information sources pursuable through, websites, CD's…etc. At the same time, the responsibility of the teacher as providing and dispensing knowledge reduces and becomes more of a coach or coordinator who will regularly advance student efforts to master use of such sources. The other implication of technology occurs as the information repository and communication vehicle. The presentation of information is enriched with audio, images, and other alternatives to textual

mode of information. Ideas, records, and procedures that are better understood when presented in part or completely through sound or images. This enables many students benefit more increasingly from those alternative representation of information.

While most higher education institutions now adopt computers and technological infrastructure, there are some variabilities in adoption issues when the activities and purposes for which information and communication technologies are being prefered to use. Higher education teachers can use information and communication technologies to support their core teaching activities appropriately. There has been high institutional investment in conventional universities with respect to information and communication technologies infrastructure to create more flexible or blended teaching and learning models. Information and communication technologies has been introduced into courses to support distributed learners or to supplement classroom-based instruction (Kirkup & Kirkwood, 2005). According to Wheeler (2001), information and communication technologies will bring about major benefits to both the learner and the teacher, when it will provide sharing of resources and learning environments and promote collaborative learning.

2.2. Web - Based Instruction

Today's technology is providing greater access of current information and knowledge to be delivered for instructional purpose. The introduction of Internet has offered a wide variety of educational possibilities for teaching and learning. However, there is still a need to enable great majority of teachers to gain experience with these opportunities. In order to prepare students for success in the next century, teachers should have the motivation, knowledge, and skills needed to use Web-based resources for improved teaching and learning (Fisher, 2000).

Neilson et al. (1996) defined The World Wide Web as 'the globally interlinked hypermedia network of text pictures and images. Current developments present unique opportunities for education. The distributed nature of world wide web and the ease with which users can gain access and contribute to it sets it apart from any other hypermedia system' (p.113). Its exponential growth is obvious that thousands of poeople all around the world are using and experimenting with it, thus causing a positive feedback loop and extremely fast rate of upgrade in the resources offered by the technology. Educational benefits of world wide web technology has largely focused on the use of it for delivery of information either about the available educational resources on the web itself or about the administrative structure of the learning environment that the student is expected to participate in an instruction (Neilson et al., 1996).

According to Khan (1997), Web-based instruction (WBI) as 'An innovative approach for delivering instruction to a remote audience, using the web as the medium' (p.1). He also gave another definition for Web-based instruction that WBI is a hypermedia-based instructional program which used to create a meaningful learning environment in order to support learning with the of aid of the attributes and resources of the World Wide Web. Khan (2000) divided WBI features into two categories as key features and additional features. Key features are main part of the Web and related with the Web design issues. They are required for the designers to implement within the Web lessons. On the contrary, additional features are changeable on the quality and sophistication of Web design. Especially, the effectiveness of additional features largely depend on how well the key features are integrated into the design of Web. Khan (2000) gave the following examples of some key features and additional features of Web-based instruction:

- *Key features:* Interactive, multimedial, open system, online search, device-distant-time independent, globally accessible, electronic publishing, uniformity world-wide, online resources, distributed,

cross-cultural interaction, multiple expertise, industry supported, learner controlled.

- *Additional Features:* Convenient, self-contained, ease of use, online support, authentic, course security, environmentally friendly, non discriminatory, cost effective, ease of coursework development, and maintenance, collaborative learning, formal and informal environments, online evaluation, virtual cultures (p.22).

McCormack and Jones (1998) defined the term Web-based classroom as a learning environment created on the World Wide Web in which students and instructors can perform learning based tasks. However, a Web-based classroom is not only a mechanism used for information distribution to students, but also involves tasks about communication, student assessment, and class management. They claimed that Web-based education system, like other conventional teaching aids, such as videos and slide projectors, it can not teach the course on its own. Apart from replacing the role of the teacher, it can be act as a new form of educational tool.

The Web has a great potential to be used for an integral part of education . According to the report of International Data Corporation (2001), Web-based education and training is growing rapidly and the market is likely to reach almost 28.6 billion by the year 2006. Public institutions offer Web-based learning options increased from 62% in fall 1995 to 79% in 1997-1998 in the public 4-year institutions, and from 58 to 72% in public 2-year institutions. In addition to these, survey results showed that in 1997-1998, an additional 12% of public 4-year and 19% of public 2-year institutions planned to offer them in the next 3 years (Lewis et al., 1999).

Bernard (1997) stated that the extensive development of the World's telecommunication infrastructure bring about powerful tools into the hands of educators. However, this is only valuable if the educators know how to

implement and to consider full advantages of the vast potential of the Web in education (Duchastel, 1997).

Bonk, et al.(2005) explained possible Web-related decisions that instructors face when they want to use the Web in education. These decisions are about the class size, type of assessments, amount and type of feedback, location of students, and type of Web courseware system used. They claimed that there is an instructional way of distinction between the instructors' preference to benefit from Web. Whereas some instructors will want to begin using the Web with minor adaptations into their teaching, others will be more comfortable taking extensive risks in transforming entire courses or programs on the Web. Most probably, the comfort level of both instructors and students will be shaped in the next few years as Web is more widely accepted in teaching.

According to Pugaale and Robinson (1998), teacher has the most important role in creating an approprite environment to maximize student learning with the Web. It is especially depend on how the teacher structures the experiences and applications for students and give answers questions that will determine its educational effectiveness. At this point, good designed Web- based education can promote what teachers can deliver to students and enhance learning outcomes. In the same way, Morrison and Guenter (2000) emphasized the role of instructional strategy to engage the learner and to communicate the ideas have more influence on learning rather than simply the technology. Instead of placing all hopes for a successful course in the display of elaborate Web pages, they focus on the need for specific instructional strategies that can be created to communicate the ideas effectively.

2.3 Computer Mediated Communication

According to Heinich et al. (1999):

Instruction is the arrangement of information and environment to

> facilitate learning. The transmission of information from a source to a destination is called communication (p.13).

Heinich et al.(1999) stated that new learning usually depends on transmission of new information and effective instruction cannot occur unless communication take place. Computer Mediated Communication is the 'communication between different parties seperated in space and/or time mediated by interconnected computers' (Romiszowski & Mason, 1996, p.439). Computer mediated communication depends on computer technologies to provide participants with the opportunity to share computer files, programs and to study and learn together. As computers are integrated more into learning with the inevitable role of time span, teachers and learners share information and ideas back and forth via computers (Jonassen, 1996).

According to Harasim (2000), computer mediated envirionments can enhance cognitive activities. It enables exchanging, organizing ideas to support collaborative learning by building necessary tools. Also, it can be utilized to create templates, scaffold, and educational supports for advanced pedagogy. Computer mediated environments can provide searchable, transmissible, and modifiable information and archived data. Different disciplines can benefit from the customised learning environment by computer mediated environments.

Comeaux and Byington (2003) pointed out that:

> Interactive technologies can enhance collaboration and the construction of knowledge whether a course is totally online or only partly enhanced by technology. If mainstream faculty across diciplines would value CMC as an extension, or enhancement, of collaboration in their face-to-face classrooms, then college campuses might witness a major shift in teaching and learning practices as well as the possible elimination of arbitrary distinctions between virtual and 'face-to-face' classrooms (p.348).

Apart from usual communication media, computer mediated communication has some characteristics features that make the communication process different. These characteristics can be classified as multi way communication, ability to involve highly interactive communication, asynchronous communication, synchronous communication (Romiszowski & Mason, 1996).

Multi-way communication enables minimum two learners to have electronic communication. When this is considered in Web-based instruction, learners can send e-mail to each other. Also, several learners can post messages on a discussion forum (Romiszowski & Mason, 1996). Highly interactive communication involves complex comunication process between learners. In terms of the Web-based instruction, learners can use the benefit of written communication along with the speed of Internet to interact with both eachother and the instructor (Romiszowski & Mason, 1996).

According to Berge (2000) interaction takes place in different forms; between a student and course materials, between student and learning activities or examinations, between student and professor, and among students. Each student has to do something with the knowledge that s/he attempts to get. He described interacting with content as actively processing and combining the content with prior knowledge. Wang and Newling (2002) emphasized the vital role of encouraging high degree of student interactivity for both Web instructors' and students' emotional and motivational involvement. One way of supporting student involvement is to utilize computer mediated communication as a powerful tool that makes easier to form a cyberlearning communities. Also, they discussed the contact between the instructor and student with peer collaboration among them that can encourage course performance and student overall satisfaction. In addition to interaction, feedback has an important role in communication process. Heinich et al.(1999) stated clearly that feedback is an instructional communication which receiver give response to the message sender. Berge (2000) emphasized the role of feedback from the novice learners' point of view: 'For novice learners,

prompt feedback often means that the most effective communication between students and professor occurs in real time, or as close to real time as possible, to facilitate these learning moments' (p.25). Computer mediated media has an ability to provide a means of way with students in order to connect socially and to construct interaction by collaborative learning (Hatch, 2001).

2.3.1. Advantages of Computer Mediated Communication

Computer mediated communication has both advantages and limitations in educational settings. Joiner (2004) pointed out the advantages of computer mediated communication as:

> '…The first advantage of is that it allows time for deliberation. Group members can reflect on previous arguments and reply with a thought-out response. A second advantage is that it provides the opportunity for group members to post opinions simultaneously. A third advantage of computer mediated communication is research suggesting that groups interacting via computers have more equal participation among members than groups interacting face-to-face'(p.197).

Hiltz (as cited in Jonassen, 1996) found that students in computer mediated communication classroom produced more interaction and have more exchanges among the students than did face-to-face interchanges. The possible reason for this probably individuals remain anonymous. The other benefit of computer mediated communication for learning can be considered with respect to collaborative learning. Computer mediated communication will likely enrich the efficiency of collaborative learning attemps among learners. It developes communication access, eliminates social isolation, and barriers between learners, conforms to a sense of informality, supports a group identity (Pfaffenberger as cited in Jonassen, 1996).

2.3.2. Limitations of Computer Mediated Communication

In addition to the advantages of computer mediated communication, Jonassen (1996) stated the limitations related with it:

- To be able to use computer mediated communication tools, more or less technical knowledge is required otherwise learners can be frustrated and they feel anxiety. There is a lack of user- friendly softwares and resource.

- Infrastructure of hardware and communication lines are not totally reliable that may cause loss of work or communication delays. Thus, users can become frustrated and participation descreases.

- The other limitation is the communication still of typing. The primary mode of data input is typing which the participants use text-based access and particularly participants are primitive at doing this process.

- When users are not online at the same time, delays occur in communication between message sender and reciever. Also, conferencing or direct communication between individuls from several time zones of different places can cause further delays for hours may be days. This may reduce the impact of messages.

- Participations of the individuals within the group varies. As full participation is desired in electronic communication as occurs in face-to-face class discussions. However, technofobia or anxieties about communication can prevent some individuals from participating fully in electronic communication. When people send a message and nobody post a response then people may become disrupted.

- Discussions can be made more difficult due to the absence of social

context cues. Nonverbal communication is not an easy way to interpret the messages.

2.3.3. Synchronous and Asynchronous Communication

Synchronous communication is also known as real-time communication. In synchronous communication, participants communicate with each other at the same time, but not necessarily in the same place (with telephones, video conferencing, etc.). In the same way, synchronous computer mediated communication occurs when two or more people are communicated with each other with computers at the same time. On the other hand, asynchronous communication is known as delayed communication. In asynchronous communication, participants communicate with each other at a time, but not necessarily at the same time (Jonassen, 1996).

The most common synchronous communication ways are broadcast or interactive television, and also synchronous activities are delivered by satellite or on the Web. Currently, videoconferencing and text-based interactive- chat is prefered to use. On the contrary, the most often used way of asynchronous communication is e-mail. Other primary forms of asynchronous communication are electronic mail, group conferencing systems and interactive messaging systems (Berge, 2000).

E-mail can be supplied for educational purposes, generally students use e-mail in order to ask questions to instructor more than they typically ask in a classroom (Jonassen, 1996). Yu & Yu (2002) emphasized the role of instant feedback. Mostly, students demand for instant response from the instructor, when they have out-of-classroom contact via e-mail with the instructor. Also, learners prefer to use e-mail while they might be to hesitant to ask if the class mates saw the question. The primary advantage of e-mail is that learners need little instruction to use it (Driscoll, 2002).

Electronic discussion is another form of asynchronous communication which is used in educational activities. Learners participate in discussion groups in order to post questions related to the relevant course topics, exercises, and learning experiences. When a dialogue centered on a reading or relevant topic, this can encourage learners to connect to the course and motivated to actively participated. However, discussion groups have also disadvantages. Like e-mails, especially learners who are good at expressing their ideas with writing can benefit more within discussion groups. The poor quality of messages can tire learners. Conversations can become entwined as the groups do not send responses related with the topics or threads. In a threadless discussion, there can exist a confusion as passing from one topic to another and comments from different topics can blended. It is needed to categorize the discussion group archive to use as a resouce. The other challenge of discussion group is to keep the conversation moving and on its track. Discusion groups are needed to moderate. Highly moderated discussion groups leads to more irritated participants who feel edited. Instructor take on a great work load of moderating, if s/he has to monitor all postings (Driscoll, 2002).

Mason (as cited by Berge, 2000) cited some advantages of using asynchronous communication in education:

- It is flexible, so students can access course materials at any time.
- It allows students time to reflect.
- It lends itself to a situated learning approach whereby students can relate ideas being discussed to their own working environment.
- Asynchronous technologies are cost-effective (p.27).

Also, disadvantages of asynchronous communication are concluded as:

- Technical problems related with using computer software or hardware.
- Participants have communication anxiety, when they can not get immediate response. Also, the novice learners can refrain from

participating into the conversations since they say something silly, unimportant, or poorly expressed and because postings can not be erased and learners are concerned about how others and instructor assess these postings.

- Time management is needed to prevent too much time consuming in online discussion sessions since online conversations are unlimited.
- Misconceptions should be overcame due to the great amount information overload (Bruyn, 2004).

Chat is a synchronous communication and it is a real time, text-based conferencing over the Internet or an intranet (Driscoll, 2002). In chat sessions, a real time conversation occurs between two or more people. Participants exchange written messages over a network. Each member of the chat group sees all the other' messages. Chat sessions can be regarded as an instantaneous discussion group (Horton, 2000).

Horton (2000) stated some examples of common uses for chat;

- When real-time question and answer are needed.
- To manage brainstorme, troubleshooting activities and problem-solving sessions.
- To prepare an 'oral' examination for a training course.
- To provide teams of learners to arrange group meetings
- To enable students or researchers to interview with subject matter experts .

Although chat is prefered to use in learning environments, Horton (2000) considered both advantages and disadvanteges of chat:

- Nearly immediate: Chat provides nearly immediate feedback. For complex questions that require follow-up or clarification, a chat session can accomplish in minutes what would take days with e-mail or a discussion group.

- Leave a transcript: Chat leaves a written transcript. However, it may seem crude when read later.

- Requires a small group: Chat can seem painfully slow if only two are chatting. If more than five or seven are chatting, however, it can be disfficult to keep up, especially if you are a slow typist. By the time you have responded, the converstaion has moved to another topic.

- Requires typing skills: Chat is spontaneous only for those with good touch-typing skills.

- Often ignored by learners: Chat, though popular for social exchanges, is not the most popular feature in many web based training courses (p.356-357).

Mason (as cited by Berge, 2000) concludes some advantages of synchronous communication systems:

- They are more motivating and thus can better focus the energy of the group
- Real-time interaction helps to develop a sense of 'social presence' and group cohesion.
- Synchronous systems provide quick feedback on ideas, and they support consensus and decision making.
- Synchronous events encourage people to keep up-to-date on assigned work and provide structure and discipline (p.27).

2.4. Blended Learning

In The Chronicle of Higher Education (2002), Young (cited in Bonk & Graham, in press) quoted the president of Pennsylvania State University

emphasized the blended learning as stating that the convergence between the traditional instruction and online instruction was: 'the single-greatest unrecognized trend in higher education today' (Young, 2002, p.A33). In the same article, it is predicted that the number of blended courses in higher education increase as possibly to involve as many as 80-90% of all courses (Young, 2002).

Various definitions are given for the definition of blended or hybrid learning. Hybrid courses offer some of the convenience of online courses without the complete loss of face-to-face instruction (Madison, 2002). According to Driscoll (2002) blended learning means:

- To combine any form of instructional technology with face-to-face instructor led-training
- To get together different Web-based technologies
- To combine different pedogogical strategies

Carman (2002) identified five key elements of a blended learning process in the below figure:

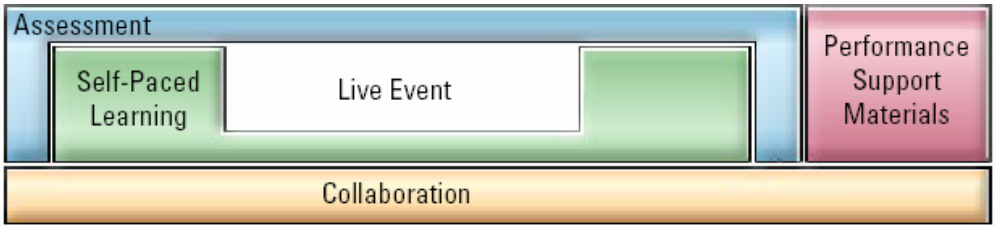

Figure 2.1: Ingredients for Blended Learning

First one is *Live Events* in which all learners participate in instructor-led learning events at the same time. Second element is *Self-Paced Learning* that the learner completes learning activities at his own speed and on his own time. Third element is *Collaboration;* learners communicate and study with others. E-mail, threaded discussions or online chats are the possible learning environments to be used for collaboration.The following component of a

blended learning approach is *Assessment* for measuring learners' knowledge. Pre-assessment can be implied before live instruction and self-paced events to understand what learners have as prior knowledge. Afterwards, Post Assessment can occur following live and self-paced learning events in order to determine learning transmission. The last key factor is *Performance Support Materials* that enhance learning transfer with the help of printable materials, summaries, book resources, pdf downloads.

Osguthorpe and Graham (2003) stated that as using blended approaches, participants can benefit from both face-to-face interaction (occurs both among learners and between learner and instructor) and inherent advantages of online instruction based on the used pedagogy. The main point in using blended approaches is to create a harmonious balance between face-to-face interaction and online access to knowledge. This balance is depended on the needs of every course and different strengths and weakness of both traditional instruction and online teaching methods. The following figure demonstrates the different blended learning approaches which is used to create a well balanced learning environment with the strengths of face-to-face and online learning environment:

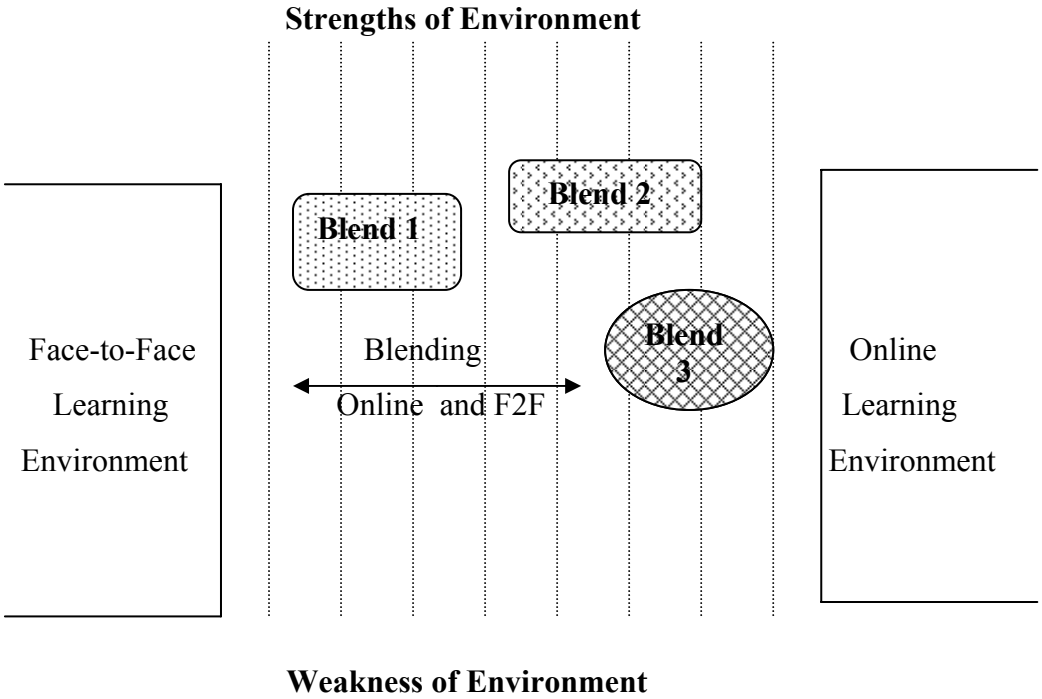

Figure 2.2: Blending the Strenghts of Face-to-Face and Online Learning Environment (Osguthorpe & Graham, 2003, p.229)

According to this figure, blend 1 represents significant amount of synchronous interaction. The other blend 2 emphasizes asynchronous student-to-student contact. The important criteria for blending strategy is involving the strenghts of each learning environment. So, blend 3 illustrates a course that combine face-to-face and online approaches with a few weaknesses of each.

Osguthorpe and Graham (2003) stated common properties of blends as: (a) blending online and face-to-face learning activities, (b) blending online and face-to-face students, (c) blending online and face-to-face instructors. In figure 2.2, three different types of blends are visualised with combinations and variations on these:

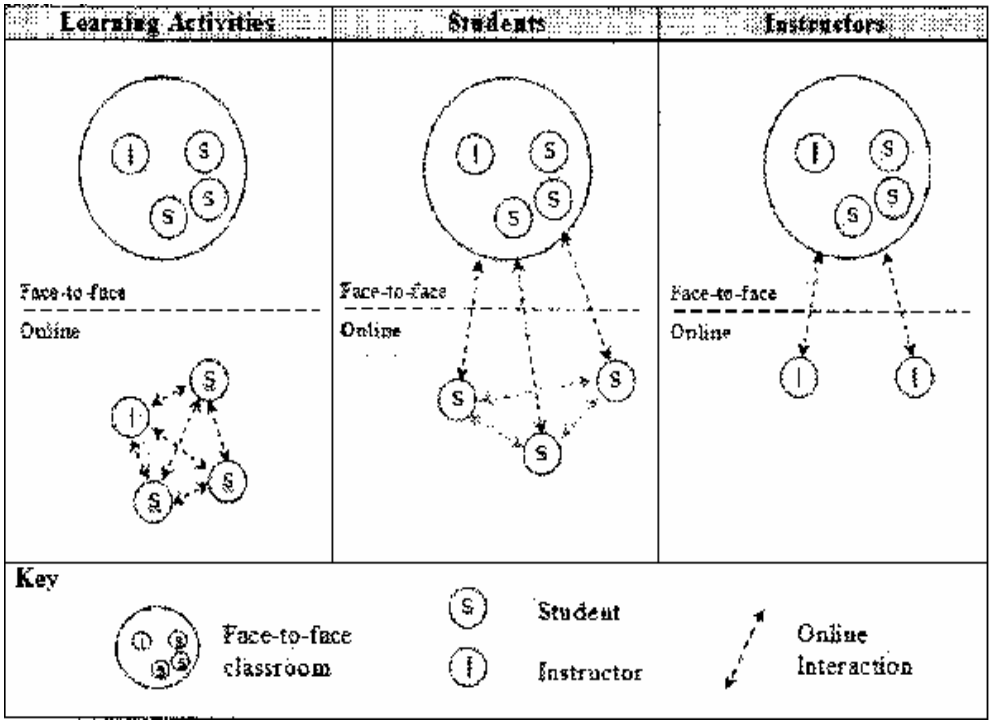

Figure 2.3: Common types of blended environments (Osguthorpe & Graham, 2003, p.230).

Face-to-face instruction and online learning activities can be blended so that learners participate in both learning environment in different ways. In first blending model, same learners participate in first face-to-face instruction, and then follow up the online activities. The second model involves face-to-face students participating in the same class with the online students. At the last model, a blended course is given by both face-to-face and distant multiple instructors to enhance learning experiences (Osguthorpe & Graham, 2003).

Osguthorpe and Graham (2003) pointed out six goals that instructors can consider as they design blended learning environments:

1. Pedagogical richness
2. Access to knowledge
3. Social interaction
4. Personal agency
5. Cost effectiveness

6. Ease of revision (p.231).

2.5. Research Studies About Blended Learning

Research findings related with blended learning are presented and discussed below from literature.

Christensen (2003) conducted a case study about the balance between online and face-to-face instruction while designing, testing, and implementing an introductory design course of Instructional Psychology & Technology (IP&T) department at Bringham Young University. IP&T(564) course is delivered at first during Spring Term 2002 with a blended instruction strategy as a pilot study. Main result of the study indicated that students appeared to think the course was valuable and effective. Although students reported that they had received useful feedback from the instructor, they asked for more real class instruction to benefit from peer and instructor comments more efficiently than interacting online. The same course (IP&T 564) was implemented at second during Fall semester 2002. The instructor made some modifications based on the results of the first pilot course: (a) increased the number of personal consultation and amount of face-to-face time, (b) replaced online peer review with face-to-face discussions in class, (c) added an online case study discussion forum so that students share their comments about the course assignments, (d) allowed students to work collaboratively on course design projects. According to this innovations, students felt more positive about the value and blending strategy of in-class and online time.

Another similar study was developed by Tuckman (2002) to determine the effectiveness a hybrid instructional model, called ADAPT (Active Discovery and Participation Technology). The ADAPT model involves the necessary features of traditional classroom instruction (classroom, instructor, textbook) with the activities of computer mediated instruction (performing online activites, frequent assessment and feedback). The ADAPT model was used to

teach Individual Learning and Motivation: Strategies for Success in College, a five-credit course on 'study skills'. Assessment of the student achievement was made through computer-mediated performance activities. The results of this study showed that students study skills using the combined classroom/computer mediated ADAPT instructional model developed significantly more in academic achievement than students taught the same material by the traditional classroom instruction.

Irons et al. (2002) conducted a study of blended learning in a State university in the Midwest. This blended learning model consisted of face-to-face instruction, a learning management system (MyGateway), that supply asynchronous coordination and a variety of group communication tools for learners. The researchers used a questionnaire as a survey instrument administered to random sample of 666 students with a 70% response rate. The data presented in this study indicated that increased use of the Blackboard Learning System applied as a learning portal, MyGateway, resulted in higher estimates of learning activity, higher degrees of satisfaction, and higher student/teacher communication than in courses not using the portal.

The earlier work in the field by the University of Central Florida and the City University of New York (CUNY) provided a considerable foundation for defining blended learning at RIT. The used blended model combines the important practices of distance learning (online interaction and feedback), with the necessary practices of classroom instruction. Both winter and spring of 2002, the blended pilot involves 26 courses and approximately 550 students were enrolled in these courses. Results from the surveys indicated that students were generally satisfied by their learning experiences in blended courses. Major findings from the study as follows: nearly 75% of the students reported that they liked the blended learning approach and they advised the other students to take blended courses, course completion was appropriate-less than 5% withdrew or failed the courses, students perceived a great amount and quality of interaction with the other students, survey results

supported that students were excited with the applied instructional strategies in blended courses, also faculty participants agreed that applying a new approach lets them energized since they experienced to redesign their courses in a creative process and teach their courses in a different format (Humbert & Vignare, 2002).

Ausburn (2004) conducted a research study to describe course design elements which were specified by adult learners in a course composide of face-to-face instruction with the support of Web-based learning environment. Online course features and instructional design goals choiced as the most important by a sample of 67 adults learners enrolled in five courses in a large state university in US. All the courses were similarly in same structure as blended or hybrid. The data of the study were obtained through two sources: research questionnaire, and the Assesing the Learning Strategies of Adults (ATLAS) self-test. The result of the study indicated that learners valued course designs containing options, personalization, self-direction, variety and a community. Also, they emphasized on the effectiveness of two-way communication with their classmates and instructor, and they benefited from the frequent announcements and reminders available online from the instructor.

Another study was conducted by Sanders and Shetlar (2001) to examine students attitudes toward a Web component used within a general biology course for 110 undergraduate students. The web component primarily used to increase asynchronous learning outside the classroom and to support student-to-student interaction. The effects of the Web-enhancement tool were assessed using The Web-Based Instruction and Attitude Scale instrument .Also essays, short answer and multiple choice questions and in class discussion were used . The result of the study reported that students were observed to have a highly positive attitude toward Web-enhanced instruction. Moreover, females had more positive attitude than male students. Learners were very comfortable studying course activities on the Web and they

observed to prefer more addition of a Web-enhanced component in their other courses.

In other study, Aspden and Helm (2004) considered whether a virtual learning environment (VLE) in an on-campus setting could alter the dimensions of existing learning and teaching process. Also, it was investigated that how on-campus students benefited from appropriate use of technology in ways which effective connection with the instructor and other peers. Researchers prefered to use qualitative data from the evaluation of a large-scale virtual learning environment implementation. There were two phases of evaluation. First Phase combined of interview and observation to examine the students' learning experiences about VLE. For the next phase, data was generated by the verbal and observed previously with the phase one was used to design a reflective learning activities diary. By this way, their aim was to understand deeply students' experiences through written, self-report data. As the results of this study, combining the VLE and face-to-face instruction facilitated connections and engagement between students their learning experiences. Also, independent work and collaboration with others facilitated in this study. However, some students who finded some barriers with online communication prefered to have face-to-face opportunities for socialization.

Cottrell and Robison (2003) conducted a case study in an accounting course designed for finance majors. The implementation was designed that all the text-book examples, and homeworks were covered outside the classroom instruction in an asynchronous format. This was accomplished using technology in order to produce multimedia presentations to clarify the accounting information in the homework problems. At the end of the course, approximately 97 students were surveyed about their preference of blended learning approach. The data showed that learners had extremely positive attitude toward the blended learning method. The survey suggested some advantages: the used method enabled students learn difficult concepts faster and in an effective way, they had control over personal time schedule for

study, and they experienced a better way of getting answers to questions. Additionaly, during this course program questions arose from students at different departments and they asked for whether they would have a similar experience in their courses, such as art history, psychology, biology, etc.

Yıldırım (2002) analyzed students' perceptions about Web-enhanced instruction in an introductory Chemistry course with respect to the course Web site, Web-based supportive course materials, Powerpoint presentations used in the lecture. The findings of the study indicated that students were satisfied with the course web site and its components. Especially, the animations were found the most appealimg component of the course site. However, they suggested that the Powerpoint presentations should be better used as supportive materials to overcome the problem of being passive learners in the lectures.

In the study conducted by Ersoy (2003) to investigate the perceptions of students in a blended course on programming language with respect to web based instruction, collaborative learning environment and online instructor. According to the results of the data, students refrained from using online communication tools since they already had a face-to-face communication opportunity and this leaded to students' low participation scores. Also, students had neutral perceptions about Computer Mediated Communication, but they found online collaborative learning motivating and their perceptions about online instructor role were positive.

Gürbüz (2004) conducted a case study about an assessment of an online learning environment based on students' and the course instructor's point of views. The data of the study indicated that both the participants and the instructor accepted the online collaborative environment as beneficial and motivating experience. They expressed positively the availability of the collaborative group work, computer mediated communication and support system.

In Tekinarslan's (2004) study, project-based approach and distributed instruction with the proper teaching and learning activities was combined in an online graduate program. The findings indicated that this combination was more effective, when it was in active learning (i.e. discussion, collaboration, problem solving) rather than a simple delivery way of content through the Web. Time and place flexibilities, interaction with adult learners with different business backgrounds and experiences, and the combination of online interactions with residencies were important advantages of the delivery method. On the other hand, the lack of face-to-face interactions and the lack of immediate response during the online interactions were considered as disadvantages of the distributed learning environment.

Another case study of blended learning was conducted by Akkoyunlu and Yılmaz (2006) in order to investigate students' views on blended learning environment with respect to their achivement level and frequency of participation in to the forum. The results of the study indicated that when the students' achievement level and participation rate of the forum raised, students expressed more positive views about blended learning environment. Also, the students emphasized the significance of interaction and communication in the effectiveness of online learning. This study highlighted that face-to-face teaching and the utilization of forum contributed to the students' achievement.

CHAPTER 3

METHODOLOGY

In this chapter, the research questions, the design of the study, the participants, general information about the course, data collection, and data analysis procedures, assumptions and limitations of the researcher are presented in order.

3.1. Research Questions:

The main goal of this study is to understand students' perceptions about the web-based learning in the blended learning environment.

This study was designed to answer the following research questions to reach the desired goals:

1. What are students' perceptions with respect to the blended course?
    a. What are the students' perceptions about their learning experiences in blended learning environment?
    b. What are the students' perceptions about the course web site?
    c. What are the students' perceptions about the level of communication with the instructor?

3.2. Design of the Study

The goal of this study was to gather reliable data and to provide meaningful interpretation that can add to the web-based learning literature about students' perceptions with respect to the blended learning environment. This study utilized the components which are involved in a descriptive, case study. Descriptive study is primarily concerned with conditions or relationships that exist, opinions that are held, processes that are going on, effects that are evident, or trends that are developing. A descriptive study describes and interprets 'what *is*' question. So, the research question of the study was suitable for the aim of the descriptive study. 'Case studies become particularly useful where one needs to understand some particular problem or situation in great depth, and where one can identify rich in information' (Patton, p.19, 1987). The case study researchers have in common is that they named the object of their research cases and they focus their research on the study of such defined cases. A case can involve the study of an individual, a class, a situation, an activity, an event, or an ongoing process. (Fraenkel & Wallen, 2003). This case study focused on a section of a class which performed a blended learning environment.

The researcher conducted both quantitative and qualitative data collection methods. For the quantitave data, the questionnaire was administered to students in order to assess students' perceptions about the blended learning course at the end of the term. Administering questionnaires personally to groups of individuals has a number of advantages. The researcher administering the instrument has an opportunity to establish rapport, define the purpose of the study, and explain the meaning of the items that may not be clear. Also, that availability of a number of respondents in one place prevent time consuming and expense ,while providing a high proportion of usable responses (Best & Khan, 1993). After collecting the quantitative data, the qualitative data was obtained to follow up and support the quantitative findings. 'Qualitative methods permit the evaluator to study selected issues,

cases, or events in depth and detail' (Patton, p.19, 1987). The use of qualitative research approaches, alone or in combination with quantitative methods in the same study, can greatly expand the breadth and depth of our understanding of the student in higher education as a developing participant in his or her own learning process. (Bloland, 1992). Semi-structured Interview technique was used for qualitative data collection. In semi-structured interview, the interviewer is free to probe and explore within predetermined inquiry areas (Hoepfl, 1997). Interview was conducted with the students and also with the instructor at the end of the term.

3.3. Subjects of the Study:

The participants were selected using convenience sampling for this study. 'Many times it is extremely difficult (sometimes even impossible) to select either a random or a systematic nonrandom sample. At such times, a researcher may select a convenience sample' (Fraenkel & Wallen, p. 103, 2003). Convenience sampling is preferred when a group of participants in a study that happen to be available at the time of data collection (Picciano, 2006). The participants of the study were CEIT students, taking the CEIT 112 first section course during 2004/2005 spring semester at the department of Computer Education and Instructional Technology (CEIT), Middle East Technical University, in Ankara, Turkey. The total number of the students which were enrolled to this course was 30. However, the number of the participants of this study was 25 out of 30. The numbers of male students were 16, and female students were 9. All of the students were first year CEIT students taking the course as a must course in the program.

3.4. Description of the Course

The CEIT 112 course was offered as a must course for first year CEIT students during the 2004/2005 spring semester. Only the first year students who completed CEIT 111 must course successfully in fall semester can take

CEIT 112 course according to their curriculum program. The title of the CEIT 112 course is Information Technologies in Education II.

The course covers the general principles and design issues of database and database management systems. Handling of large data, foundations of database concept. Based on this knowledge, creating and manipulating databases using Microsoft Access 2002 discussed. In the second half of the semester, the course introduced the basics of communications such as, the Internet, web browsers, FTP, search engines, WWW, etc. and network applications such as, the basic structure of computer Networks with cabling, network hardwares, network design topologies and protocols. Also, the use of them in educational settings. Besides these specific topics, the implementation and the use of computers in
education were discussed. Overall awarenes and commitment to act on principles of responsible technology use in education emphasized throughout the semester.

An overall goal of this course is to familiarize the student with the terminology and concepts of networking, problem solving, and databases while promoting "fearlessness" when it came to the use of computers, and a sense of "learning to learn". In more specific terms:

- To understand database concept, basics of relational databases, the use of database management software in an educational setting.
- To identify the concepts related to databases and the features of MS Access 2000; to create and maintain tables and table data; to locate and manipulate data.
- To use MS Access 2000 to maintain tables and table data; to manage MS Access 2000 data; to create and modify forms and report formats, and

- To create and refine queries; to create, modify and enhance the forms in the design view and reports; to secure and enhance the performance of an MS Access 2000 database.
- To examine the role of computers and computer networks in education.
- To familiarize the student with the Internet applications and the use of these applications in educational settings.

Furthermore, to help students create an image of themselves as teachers, especially how they can use computers to make teaching and learning more productive for themselves as professionals as well as for their students.

The course was designed as a blended learning with the developed course web site. The course was offered with a face-to-face traditional lecturing of two-hours lessons in the classroom and one hour online instruction and two-hours laboratory works in the computer laboratory. The instructor used lecturing methods supported with PowerPoint presentations. Also, the instructor introduced the course topics in the lesson by giving examples and applications.

Each week, the instructor put the new course topic and content on the course web site so that the students read them before the face-to-face lecture to be prepared for the face-to-face lesson. Also, the instructor provided discussion questions and topics to encourage students to share their knowledge and communicate actively with each other and the instructor. By generating such activities, students demonstrated their knowledge and comprehension about each of the course topic. Discussion activities were conducted in an online asychronous mode through the use of forum sessions.

The students participated in computer laboratories for two hours to practice the course content. Also, the students were expected to complete the laboratory application related with the topic of each week. Throughout the lab

activities, students demonstrated their knowledge, comprehension and application related with the weekly course topic. There was a research assistant to help the students during the laboratory works. During the project preparation week , the students worked on their group project in the computer laboratory hours. It was expected from the students to discuss project group works through the forum. In the course web site, detailed course outline, resources, assignments, the topic of each week, the schedule of the group project work, announcements related with the course schedule and exams were covered.

3.4.1. The Components of the Course Web Site

The course is offered through the Netclass which is METU- Online Support System for regular, online and partially online courses at Middle East Technical University in Ankara, Turkey. The course web site has an introduction page where students can access the course web site with their own user-id and password number which were assigned by instructor at the beginning of the course. The Figure 3.1 shows the login page of the course web site:

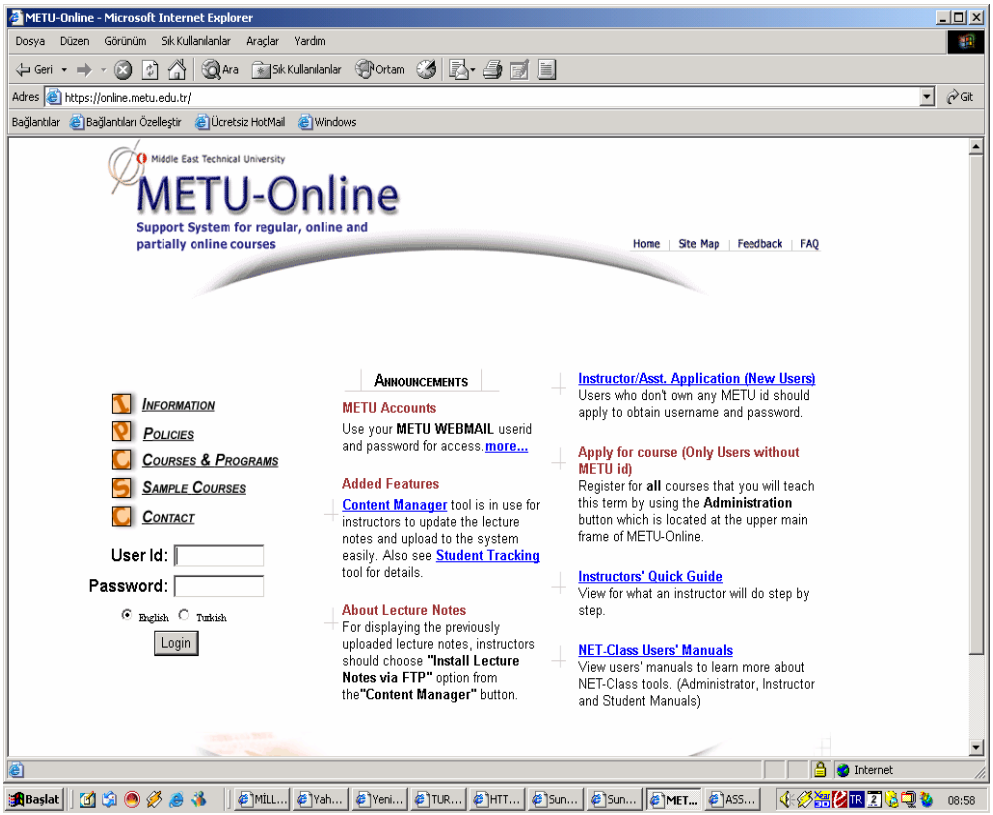

Figure 3.1: The Login Page of the Course Web Site

After a student enters the necessary right user-id and password information, the offered courses page appears and student choose the course CEIT 112 section 1 link to enter the course web site. Figure 3.2 shows the course home page:

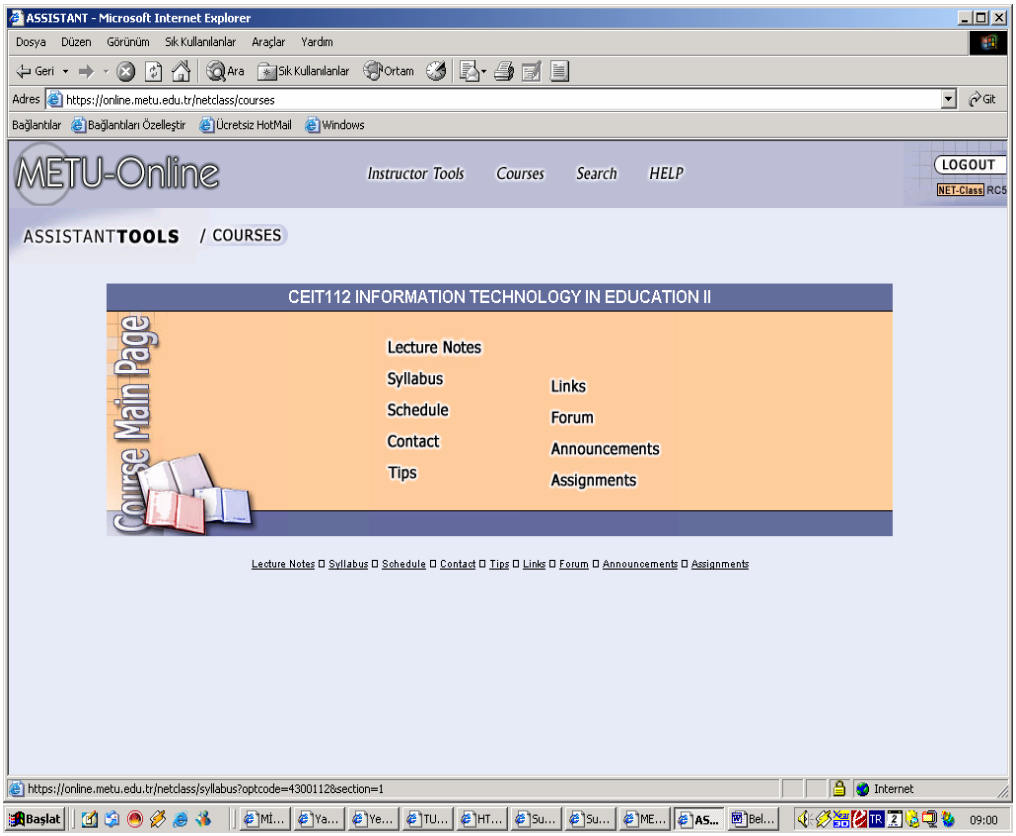

Figure 3.2: The Course Home Page

The course web site has the following components: Lecture Notes, Syllabus, Schedule, Contact, Tips, Links, Forum, Announcements, Assignments.

Lecture Notes contains the course notes which cover the each week subjects as HTML page format. In Figure 3.3 sample page related with the Lecture Notes is presented:

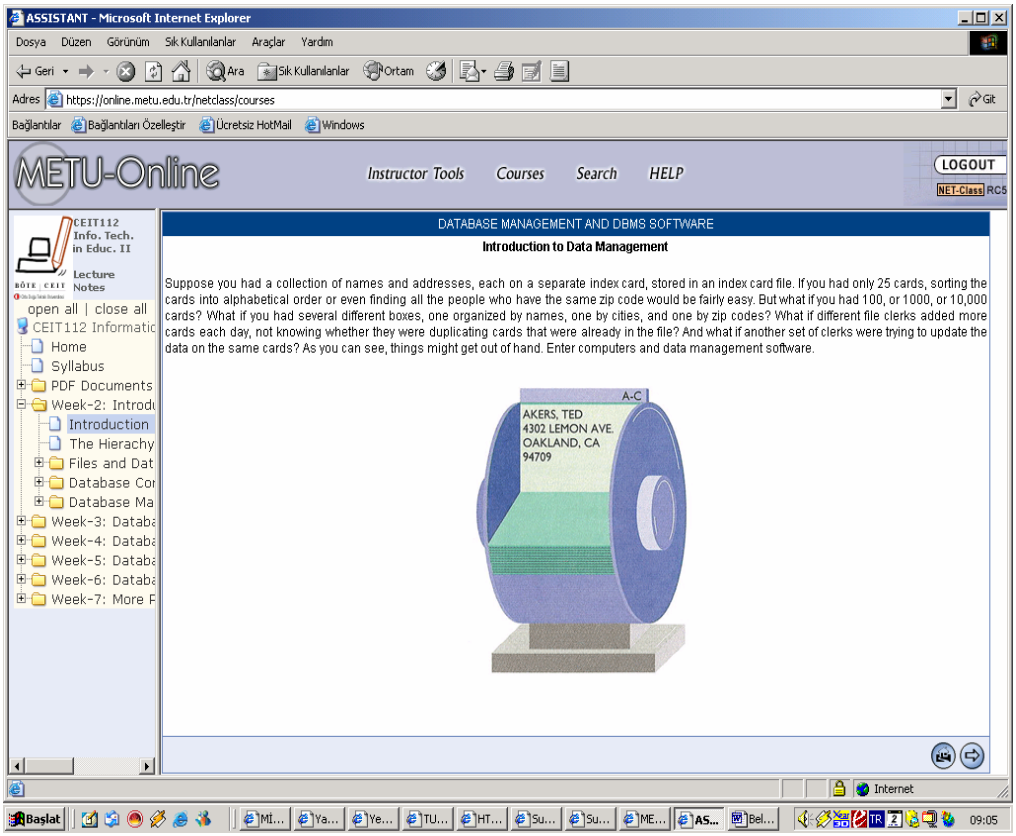

Figure 3.3: The Lecture Notes Page

In the Syllabus Page, the course content is given in an order and Schedule Page presents the program of the course with the time sequence. 'Contact' is the component of the page shows how students can contact with the instructor and the course research assistants. In the Announcement Page is a virtually communication page that the instructor announces the news about the exams, meetings, assignments etc…Figure 3.4 shows the Announcement Page.

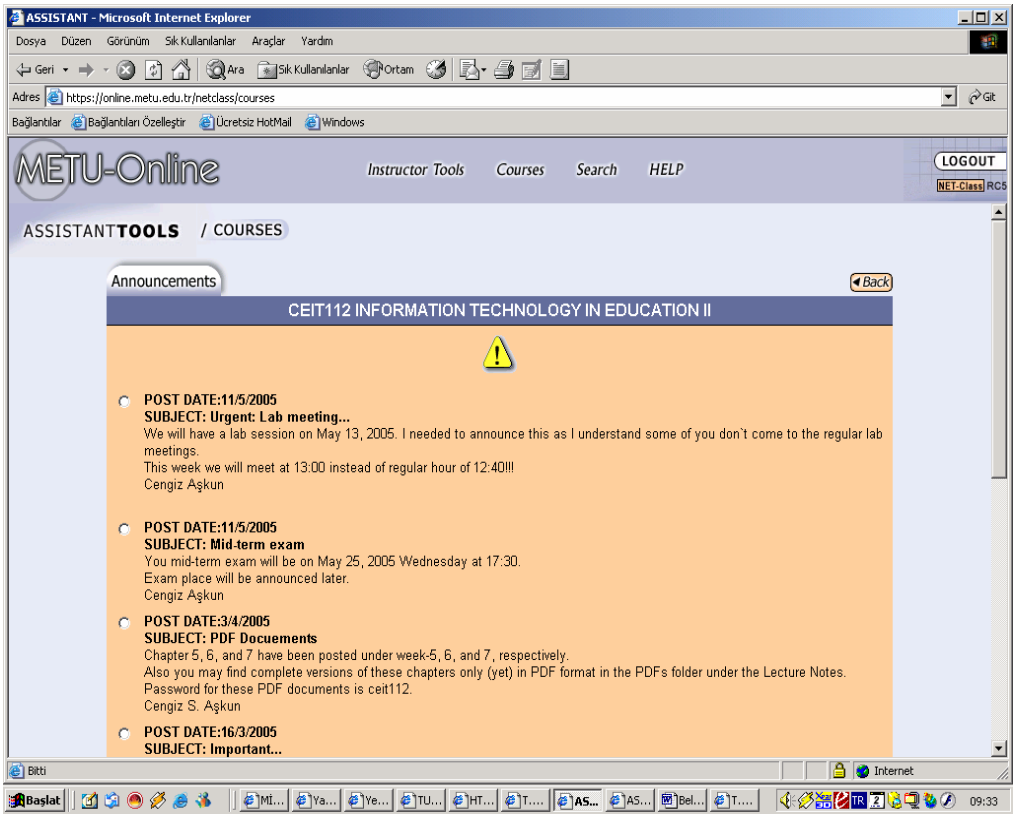

Figure 3.4: The Announcement Page

Forum Page enables an asynchronous communication and students can discuss the defined topics related with the course content by instructor. Also, students can offer some topics to be discussed throughout the forum. Figure 3.5 shows a sample screen from the Forum Page.

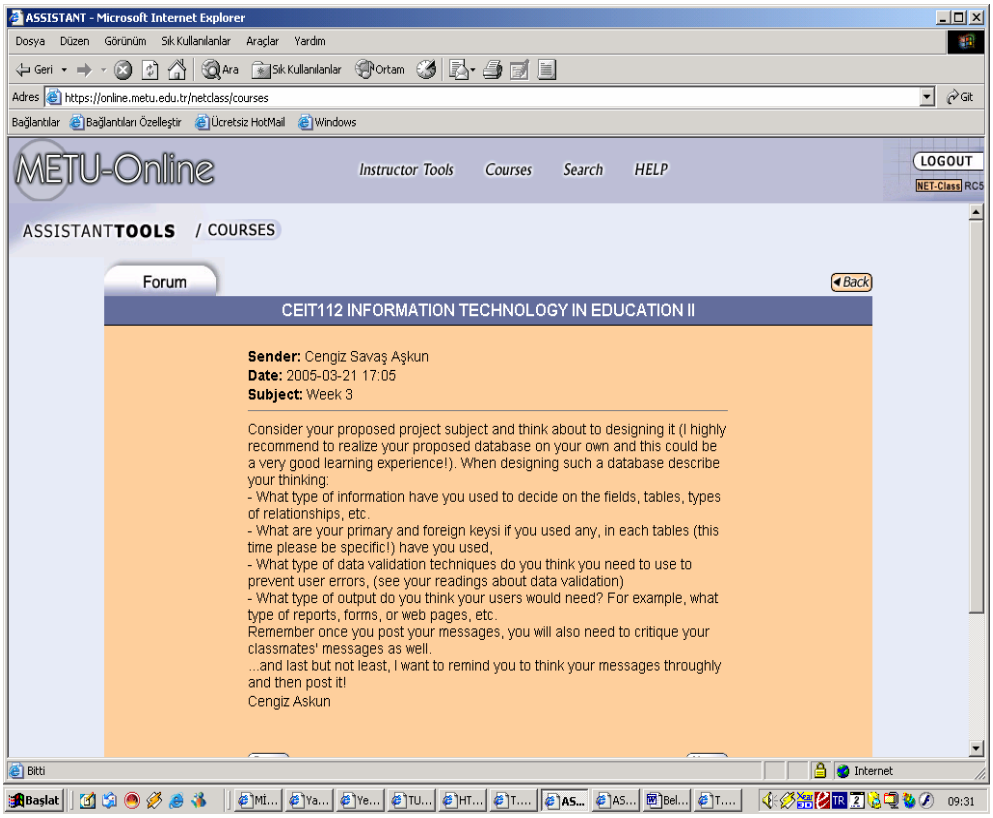

Figure 3.5: Sample Screen from the Forum Page

3.4.2. Evaluation and Grading Strategies

Different assessment strategies were used in this course. Five measurement criteria were used to assess student achievement. There were midterm exams, final exam, laboratory work assignments, group project, and the last criteria was the participation of the students into the course, as figured out in the Table 3.1. Midterm exams and the final exam were distributed on paper.

Table 3.1: Distribution of Evaluation and Grading Percentages in the Course

Measurement	Percentages (%)
Midterm	20
Final Exam	25
Laboratory Assignments	15
Term Project	20
Participation	20
Total	100

3.5. Data Collection Instruments

In this research study, both quantitative and qualitative data collection methods were used. To investigate the students' perceptions about the blended CEIT 112 course, the questionnaire was administered to students at the end of the term. The questionnaire was in English. Two interview guides were used in this study in order to gather qualitative data. One of them (see Appendix C) was used to get deep understanding of students' perceptions about their learning experiences in blended learning environment with their own words. The other interview guide (see Appendix D) was developed to take course instructor's perceptions related with the course in general through the semi-structured interviewing.

3.5.1. Evaluation of Students' Perceptions about the Course Questionnaire

When factual information and opinions are desired apart from the facts, the researcher can prefer to use the questionnaire (Best & Kahn, 1993). The questionnaire used in this study for identifying the students' perceptions about the CEIT 112 course was adapted from Erden Oytun's study (2003). The questionnaire was originally developed by Dr. Roxanne Hiltz (1994). It was used for identifying the effectiveness of the Virtual Classroom in the late 1980's. The items were updated to be necessary for web and new teaching related activities that are used in many web based or supported courses by Marsha Kennedy Ham in 2002 (Oytun, 2003). The questionnaire was modified by the researcher for this study. The overall reliability coefficient was 0.81, which was an acceptable value in educational study. See Appendix A for the questionnaire. The questionnaire have two components.

The first component of the questionnaire was used to gather information about the students' demographic data. Students' gender, cumulative grade

point averages, background information about their computer knowledge level. Also, their attendance in the CEIT 112 course, the reasons for the low attendance level, their living arrangements, and where they accessed the course web site were identified within the first part of the questionnaire.

The second component of the questionnaire contains 30 statements that were used to diagnose the students' perceptions related with their satisfaction and success in the CEIT 112 course. The subscale items were rated on a Likert-type scale. The questionnaire is a 5-scale Likert type survey. For students' responses to the each statement, 1 showed strongly disagree, 2 was for disagree, 3 showed neutral and 4 showed agree and 5 equaled to strongly agree.

3.5.2. Interview with the Students and the Instructor about the Course

In addition to the questionnaire, interviews were conducted to understand students' perceptions with their own words in depth. Patton (1990) (as cited in Best& Khan (1993)) stated that 'The purpose of interviewing is to find out what is in or on someone else's mind (p.278). An interview guide was developed in order to investigate students' opinions, experiences and satisfaction about the course and web site in general. The interview quide simply works as a basic checklist during the interview to make sure that all the relevant topics are covered (Patton, 1987). In the interview guide, there were twelve questions (see Appendix C). Semi-structured interview was conducted to provide the researcher with an opportunity of probing and asking questions that would iluminate the interview topics. Also, an interview guide was prepared to take instructor's perceptions and comments about this blended learning case. This interview guide was composed of ten questions (see Appendix D). Expert opinion were taken for both of the interview quide questions. The guides were found valid by the experts. Interviews were conducted at the end of the term.

3.6. Data Collection Procedures

At the end of the semester, the questionnaire was conducted to investigate students' perceptions about the blended learning environment. 25 questionnaires were returned from students. At the end of the semester, 10 voluntary students were selected in order to conduct the interview. Interview guides were used in order to assist the researcher in asking the same questions the same way for each participant. An interview guide was developed in order to investigate students' perceptions related with their blended learning experinces, course web site and level of communication with the instructor. The researcher conducted interview sessions with one student at a time and the conversation language was Turkish since the participants could express themselves more smoothly in their native language rather than in English. Before the interviewing, the researher explained the goal of this study and how this data would be used in the research. Students were informed that their comments during the interview would have no effect on course grade to let the students express their feelings and experiences about the course confidentially. Also, students' permissions were taken before the interview as they signed 'Participant Informed Consent Form' that showed students participanting the research study voluntarily. Then their data were recorded and kept confidentially with the tape recorder. Also, the researcher conducted an interview with the instructor. The researcher conducted an interview with the instructor in order to investigate the instructor's perceptions with respect to the blended instruction experiences, course web site and level of communication with the students. Not only the students' perceptions, but also the instructor's opinions were necessary to look at different point of views. The researcher achieved to build a positive dialog with the instructor about his blended instruction experiences. The 'Participant Informed Consent Form' is presented in Appendix E.

3.7. Data Analysis

Researcher used both quantitative and qualitative data analysis methods. Descriptive statistics was used for the data analysis of the questionnaires with the SPSS for Windows. Best and Kahn (1993) explained that descriptive analysis as the following: descriptive statistical analysis limits generalization and the data identified one group and specificially only that group. Much of the simple action research includes descriptive data analysis and supplies necessary information about the defined particular group of individuals. The mean scores were calculated for overall and subscales of the questionnaire. During the data analysis of the questionnaire, the questions were grouped according to their relevance with the research questions. When the mean score of an item was below 2.59, students' perceptions were accepted as negative. If the mean score came between 2.60 and 3.39, perceptions were neutral. If the mean score were more than 3.40 out of 5, students' perceptions were accepted as positive. The items of the questionnaire were grouped by 8 categories concerning students' perceptions with respect to the blended learning, course web site and level of communication with the instructor. See the Appendix B for these question groups.

Data analysis procedure for the qualitative data begun with writing participants' interview remarks from the tape which were recorded during the interview process, using the word processor program. Interview data were analysed based on the steps of data reduction, data display and conclusion drawn processes. (Miles & Huberman, 1994). Miles and Huberman (1994) describe the data reduction as: "the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written up field notes or transcriptions". (p.10).

In the study, firstly the interview responses were transcribed word by word from the tape using the word processor program so that the mass of data was reduced and somehow meaningfully reconfigured. After that the researcher

printed the responses and read the data to overview the participants' general opinions. The following step was identifying the themes and organizing these themes that coincided with the major areas of questions in order to display the data. During the interview, same questions were asked to each volunteer student so that the responses were compared to find out similar themes and patterns. The relevance of the themes were summarized with respect to the research questions in order to permit conclusion drawing. Conclusion drawing involves stepping back to consider what the analysed data mean and to assess their implications with respect to the research topics (Miles & Huberman, 1994).

3.8. Assumptions of the Study

The following assumptions were accepted in this study:

- The participants would fill the questionnaires accurately.
- The participants would respond the interview questions honestly.
- The data were collected and recoreded appropriately.
- The participants' comprehension of English was sufficient to understand and respond the questions in questionnaire, since it was in English.

3.9. Limitations of the Study

The following limitations were recognized through out the study:

- The findings and the conclusions were limited to this resarch case. So, the results would be different for another blended learning environment designed by different instructor.
- The validity of the study was limited to the honesty of participants' responses to the used data collection instruments.
- The validity of the students' responses with respect to the questionnaire was limited with the students' proficiency in

understanding English since the questionnaire was delivered in English.

3.10. Delimitations of the Study

This research study was limited to 25 students who enrolled in CEIT 112 course section 1 at the department of Computer Education and Instructional Technology, Middle East Technical University in 2004/ 2005 spring semester.

CHAPTER 4

RESULTS

In this chapter, participants' demographic data, statistical results of the questionnaire, and the interview results are presented. SPSS v11.5 (Statistical Package for Social Science) software program was used for statistical analysis.

4.1. Demographic Data

The first part of the survey was used to gather demographic data about participants of this study. Demographic data results gave general information about the participants of CEIT 112 course section 1. There were 10 questions in this first part of the survey. Questions related with demographic data covered the following issues: gender, cumulative GPA (general points of average), high school type, computer ownership, students' previously online course experience, students' attendance percentage to the course, student living arrangement, the place that students' primarily used to access to the course. Out of 30 registered participants, 25 responded to the questionnaire. The data were composed of 64% male students (Number of male students= 16), and 36% of female students (Number of female students= 9). 47.8% of the 23 participants had more than 2.01 cumulative GPA. None of the participants took an online course before. 68% of the participants were graduated from vocational high school. Table 4.1 sunmmarizes the data about gender, cumulative GPA, students' previous online course experience and which high school they were graduated from.

Table 4.1: Gender, GPA, High School Type, Previous Online Course Experience

VARIABLE	FREQUENCY	PERCENTAGE
Gender	16	64%
Female	9	36%
Cumulative GPA		
Less than 2.00	4	17.4%
2.01-3.00	11	47.8%
3.01-4.00	8	34.8%
Students' Previous Online Course Experience		
None	25	100%
One	-	-
Two or more	-	-
High School Type		
General	3	12%
Anatolian	3	12%
Private	-	-
Vocational	17	68%
Technical	2	8%
Other Lycees	-	-

Also, the following data were gathered about students' computer knowledge level, attendance percentages, the reason for low attendance, their living arrangement, computer ownership, and where students access to the course primarily. Table 4.2. presented the summarized data. The percentages of elementary and intermedia computer knowledge level of students were equal and each was 44%. 84% of students' attendance level were between 75%-100%. Nearly half of students (48% of participants) live in the dormitory. Most of the participants (76%) had not computers. According to students' responses, 40% of them primarily were accessed to the course from their home and 28% of participants were accessed to the course from computer lab in dormitory.

Table 4.2: Computer Knowledge Level, Attendance Percentages, Living Arrangements, Computer Ownership, and the Place where Students Access to Course

VARIABLE	FREQUENCY	PERCENTAGE
Computer Knowledge Level		
Novice	-	-
Elementary	11	44%
Intermediate	11	44%
Upper Intermediate	3	12%
Students' Attendance Level		
75%-100%	21	84%
25%-50%	1	4%
less than 25%	-	-
Students' Living Arrangements		
Live with parents	5	20%
Live in campus dormitory	12	48%
Live off campus with roommates	4	16%
Other	4	16%
Computer Ownership		
Yes	6	24%
No	19	76%
The Place Where Students' Access the Course		
Computer lab in the department	3	12%
Computer lab in dormitories	7	28%
In my room in dormitory	4	16%
In my home/ apartment	10	40%
Other	1	4%

4.2. Questionnaire Results

Percentages of students' perceptions about the course pace, objectives and content were presented in Table 4.3. The related items were 1, 6, 14, 17, 18.

In the first item, students were asked whether the course objectives were clear and achievable. 76% of students were agree or strongly agree with the statement. The mean score of the item 1 was 3.76. So, students almost agreed that the course objectives were clear and achievable.

In the item 6, 58% of students were agree or strongly agree and there were no negative response. The mean score for the item 6 was 3.67. This showed that majority of students thought that they gained skills from the course that are useful in their actual or choosen profession.

The mean score of item 14 was 3.88. 83% of students were agree or strongly agree that they could understand basic concepts taught in this course.

In the item 17, students were asked whether the pace of the course was just right for them. 64% of students were agree or strongly agree with the item 17. According to the results of item 17, majority of students thought that the pace of the course was just righ for them.

The highest mean score among these items was belong to item 18. The mean score of the item 18 was 4.04. Students were asked whether instructor clarified the course content with the proper applications in the class. This result showed that 96% of students were agree or strongly agree with the statement that the instructor used proper applications in the class to clarify the course content.

Table 4.3: Distribution of Responses for Items 1, 6, 14, 17, 18.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q01: The course objectives were clear and achievable.	8 (2)	68 (17)	16 (4)	8 (2)	0 (0)	3.76
Q06: I gained skills from the course that are useful in my actual or choosen profession.	8 (2)	50 (12)	42 (10)	0 (0)	0 (0)	3.67
Q14: I'm confident that I can understand basic concepts taught in this course.	8 (2)	75 (18)	13 (3)	4 (1)	0 (0)	3.88
Q17: The pace of the course was just about right for me.	4 (1)	60 (15)	32 (8)	0 (0)	4 (1)	3.60
Q18: Instructor clarified the course content with the proper applications in the class.	12 (3)	84 (21)	0 (0)	4 (1)	0 (0)	4.04
Sub Scale Mean Score						3.79

The percentages of participants' perceptions related with taking a blended course gathered through the question 2, question 3, question 4, and question 11 of the questionnaire in Table 4.4. Overall students' perceptions through taking blended course was closer to the positive, since the mean score of the question 2, 3, 4, and 11 was 3.43.

For the mean score of the item 4 was 3.13. It can be said that students had negative perceptions to take another blended course. The highest mean score was 3.76 related with the item 2, which indicated that 68% of the students strongly agree or agree with the item 2. It can be said according to students' responses, taking a blended course was more convenient. The mean score of the item 3 was 3.44 and the mean score of the item 11 was 3.52. According to the results of item 11, 52% of students had positive attitude to recommend taking another blended courses to their friends or associates.

Table 4.4: Distribution of Responses for Items 2, 3, 4, 11.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q02: Taking a blended course is more convenient.	20 (5)	48 (12)	20 (5)	12 (3)	0 (0)	3.76
Q03: Taking a blended course is boring.	4 (1)	48 (12)	36 (9)	12 (3)	0 (0)	3.44
Q04: I would not take another blended course.	13 (3)	29 (7)	33 (8)	8 (2)	17 (4)	3.13
Q011: I would recommend taking blended courses to friends or associates	20 (5)	32 (8)	28 (7)	20 (5)	0 (0)	3.52
Sub Scale Mean Score						3.43

The items 19, 20, 21, 22 were asked to gather information about students' attitudes to the resources on the course web site. Percentages and means of these items were presented in Table 4.5. Overall mean score of these items was 3.43 which indicated that students' perceptions toward the course web site resources was positive to some extent.

In the item 19, students were asked whether the resources on the course web site were beneficial to study. According to students' responses, the mean score of the item 19 was 3.32. 56% of the students agree with the this statement that the resources on the course web site was beneficial to study. None of the students choosed strongly disagree choice for the item 19.

In the item 20, students were asked whether the resources on the course web site were superficial to study. 24% of students were agree or strongly agree with the statement. The mean score for the item 20 was 2.76. It can be said that majority of students thought that the resources on the course web site was not superficial to study.

With the item 21, students were asked whether they liked studying the

resources on the course web site. 24% of students agree or strongly agree with this item and 56% of students were disagree or strongly disagree with this statement. So, this results indicated that students did not like studying the resources on the course web site.

The highest mean score among these items (Q19-Q22) was belong to the item 22. The mean score of the item 22 was 3.72. Students were asked whether the resources on the course web site was clear and comprehensible. 76% of students were agree or strongly agree with the statement. It can be concluded that most of the students thought that the resources on the course web site were clear and comprehensible.

Table 4.5: Distribution of Responses for Items 19, 20, 21, 22.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q19: The resources on the course web site were beneficial to study.	0 (0)	56 (14)	20 (5)	24 (6)	0 (0)	3.32
Q20:The resources on the course web site were superficial to study.	0 (0)	24 (6)	32 (8)	40 (10)	4 (1)	2.76
Q21: I liked studying the resources on the course web site.	4 (1)	20 (5)	20 (5)	44 (11)	12 (3)	2.60
Q22: The resources on the course web site were clear and comprehensible.	4 (1)	72 (18)	16 (4)	8 (2)	0 (0)	3.72
Sub Scale Mean Score						3.10

Students' perceptions about the interaction among the classmates and the instructor were gathered through the items 8, 15, 27. The details of the responses are presented in Table 4.6. As it is shown in Table 4.6, the mean score of these items was found to be 3.93. This result indicated that majority of students had positive perceptions toward the interaction occurred among students and instructor.

In the item 8, students were asked whether the instructor gave through information to access course materials successfully. The mean score of the item 8 was 3.96 and 84% of students were agree or strongly agree with the statement. This result indicated that most of the students thought that the instructor gave sufficient information to access course materials successfully.

In the item 15, students were asked whether there was enough interaction among the instructor and the students. The mean score of the item 15 was 3.96. 84% of students were agree or strongly agree with the statement. So, it can be said that there was enough interaction among the instructor and students.

With the item 27, students were asked whether they received individual assistance from the instructor when they needed. 72% of students were agree or strongly agree with the statement. It can be concluded that most of students thought that when they needed individual assistance, the instructor helped them.

Table 4.6: Distribution of Responses for Items 8, 15, 27.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q08: Instructor gave me through information so that I could successfully access course materials.	16 (4)	68 (17)	12 (3)	4 (1)	0 (0)	3.96
Q15: There was enough interaction among the instructor and the students.	20 (5)	64 (16)	8 (2)	8 (2)	0 (0)	3.96
Q27: I received individual assistance from my instructor when I needed it.	20 (5)	52 (13)	24 (6)	4 (1)	0 (0)	3.88
Sub Scale Mean Score						3.93

Students' perceptions about computer mediated communication were gathered through the items 23, 24, 25, and 26. The mean of these items were 3.14, approximately students perceptions were neutral to use of computer

mediated communication. Percentages and mean scores of students' responses are summarized within Table 4.7. Students had more positive perceptions about using e-mail than using forum.

In item 23, students were asked whether using online forum made them communicate more with their classmates. The mean score of the item 23 was 2.67. 21% of students were agree or strongly agree with the statement that most of students did not think that using online forum made them communicate more with their classmates.

In item 24, students were asked whether using online forum made a positive contribution to their learning. 56% of students were disagree or strongly disagree with the statement that students thought that using online forum didn't make a positive contribution to their learning.

In item 25, students were asked whether they liked having e-mail connection with the instructor. 8% of students were disagree or strongly disagree with the statement and 44% of students liked having e-mail connection with the instructor. The mean score of the statement was 3.56.

In item 26, students were asked whether instructor returned e-mails/posts within 24 hours. 56% of students were agree or strongly agree with the statement. The mean score of item 26 was 3.68. It can be said that majority of students thought that instructor returned e-mails/posts within 24 hours.

Table 4.7: Distribution of Responses for Items 23, 24, 25, 26.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q23: Using online forum made me communicate more with my classmates.	0 (0)	21 (5)	33 (8)	38 (9)	8 (2)	2.67
Q24: Using online forum made a positive contribution to my learning.	0 (0)	28 (7)	16 (4)	48 (12)	8 (2)	2.64
Q25: I liked having e-mail connection with my instructor.	20 (5)	28 (7)	44 (11)	4 (1)	4 (1)	3.56
Q26: My instructor returned e-mail/posts within 24 hours	16 (4)	40 (10)	40 (10)	4 (1)	0 (0)	3.68
Sub Scale Mean Score						3.14

Students' perceptions about logging onto the course web site and spending time for studying the course were gathered through the items 7, 9, 10, 16. The mean of these items was 2.97. Approximately students' perceptions were neutral to login the course web site, and to spend time for the course. Percentages and mean scores of students' responses are summarized within Table 4.8.

In item 7, students were asked whether they were loged on to the course web site and materials regularly. 52% of students were neutral and 40% of them were agree with the statement. The mean score of item 7 were 3.36. It can be said that most of students were neutral to log on to the course web site and materials regularly.

In item 9, students were asked whether they spent too much time trying to log onto the course web site. 56% of students were agree or strongly agree with the statement. The mean score of item 9 were 3.36. It can be said that students thought that most of students thought that they spent too much time trying to log onto the course web site.

In item 10, students were asked whether they spent too much time surfing on the web instead of studying. 44% of students were agree or strongly agree

with the statement. The mean score of item 10 were 3.00. It can be concluded that students were neutral to the statement.

In item 16, students were asked whether students spent enough time when they were busy with other things. 68% of students were disagree or strongly disagree with the statement and 12% of students were agree with the statement. The mean score of item 16 was 2.16. It can be said that most of students spent time studying on this course, when they became very busy with other things

Table 4.8: Distribution of Responses for Items 7, 9, 10, 16.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q07: I logon to the course web site and materials regularly.	4 (1)	36 (9)	52 (13)	8 (2)	0 (0)	3.36
Q09: I spent too much time trying to log onto the course web site.	16 (4)	40 (10)	12 (3)	28 (7)	4 (1)	3.36
Q10: I spent too much time surfing on the web instead of studying.	4 (1)	40 (10)	24 (6)	16 (4)	16 (4)	3.00
Q16: When I became very busy, I did not spend much time on this course.	0 (0)	12 (3)	20 (5)	40 (10)	28 (7)	2.16
Sub Scale Mean Score						2.97

Students' general perceptions about online part of the course were summarized in item 5, and 12. The details of the responses were presented in Table 4.9.The mean score of these items was 2.32. This result indicated that students had negative perceptions about taking online part of the course.

In item 5, students were asked whether they found the online part of the course a better learning experience than face-to-face. 84% of students were disagree or strongly disagree and 8% of students were agree or strongly agree with the statement. The mean score of the item was 1.80. This can be conluded that majority of students did not find the online part of the course a better learning experience than face-to-face learning experience.

In item 12, students were asked whether they found learning online to be frustrating. 44% of students were neutral and 32% of students were disagree or strongly disagree with the statement. The mean score of item was 2.84. According to the result of the item, most of students have negative perceptions and nearly neutral to the statement.

Table 4.9: Distribution of Responses for Items 5, 12.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q05: I found the online part of the course a better learning experience than face-to-face.	0 (0)	8 (2)	8 (2)	40 (10)	44 (11)	1.80
Q12: I found learning online to be frustrating.	8 (2)	16 (4)	44 (11)	16 (4)	16 (4)	2.84
Sub Scale Mean Score						2.32

Percentages of students' perceptions about the grade that they would receive at the end of course and their general perceptions and satisfaction about the course were gathered through the items 13, 28, 29, and 30. The details of the responses were presented in Table 4.10. The mean score of these items was 3.54. It can be said that students have slightly positive perceptions about the overall of the course and most of students would expect well grade at the end of course.

In item 13, students were asked whether this course positively contributed to their educational or personal development. %60 of students were agree or strongly agree with the statement. The mean score of item was 3.68. It can be said that most of students thought that this course positively contributed to their educational or personal development.

In item 28, students were asked whether they believed they would receive an excellent grade in this course. 66% of students were agree or strongly agree with the statement. The mean score for the item was 3.80. This can be

concluded that most of the students believed that they would receive an excellent grade in this course.

In item 29, students were asked whether overall they were very satisfied with this blended learning experience. 72% of students were agree or strongly agree with the statement. The mean score of the item was 3.76. This result showed that overall majority of students were satisfied with this blended learning experience.

In item 30, students were asked whether this course was one of the best course they have taken. 56% of students were neutral and the mean score for the item was 2.92. According to the responses, most of students were neutral to the statement.

Table 4.10: Distribution of Responses for Items 13, 28, 29, 30.

Statements	Percentages and Number of Responses					
	SA	A	N	D	SD	Mean
Q13: This course positively contributed to my educational or personal development.	8 (2)	52 (13)	40 (10)	0 (0)	0 (0)	3.68
Q28: I believe I will receive an excellent grade in this course.	20 (5)	44 (11)	32 (8)	4 (1)	0 (0)	3.80
Q29: Overall I was very satisfied with this blended learning experience.	16 (4)	56 (14)	12 (3)	16 (4)	0 (0)	3.76
Q30: This was one of the best courses I have taken.	4 (1)	16 (4)	56 (14)	16 (4)	8 (2)	2.92
Sub Scale Mean Score						3.54

4.3. Students' Interview Results

Students' responses were presented in these three dimensions and data analysis was made through three phases: data reduction, data display and conclusion drawn.

4.3.1. Students' Perceptions about the Course Web Site

The participants were asked about the effects of course materials on the course web site in the interview. Students found that the materials on the course web site were clear to understand and half of the students (out of ten) indicated that the resources on the web site were beneficial to study. One of the students said that instructor gave supportive printed documents about the sample applications related with the major course content. And this leaded to understand the content better. On the contrary, one student criticized that resources on the course web site could be prepared in more detailed with more exiting applications and examples.

Students' perceptions about the forum page were investigated through the interview. The interview results showed that most of the students did not like to use forum part of the course web site. Students emphasized that the forum page had not an user-friendly interface and it looked like more complex to be connected easily. Students explained that they prefered to use e-mail connections with the instructor. One of them stated that:

> I did not like the design of the forum page and sometimes I faced some login problems when connecting to the forum page outside from the university campuse.

When students' were asked about their learning experiences about studying the course online, they had both negative and positive perceptions related with the online studying. Students' responses indicated that they did not like to study the course materials on the web, since most of them connected to the web on the campus laboratories due to the economical preferences. So, they found the learning environment difficult to concentrate and study appropriately. One student pointed out that she found boring to read the course content in online. One of the students indicated that:

> I suffered from the lack of technical information to understand the course content without face-to-face lectures, since I was graduated from normal high school and I was learning computer related programs recently. So, I did not prefer to take the course as fully online.

Apart from the negative comments, students emphasized the advantages of studying the course online. Students agreed that assignments, and announcement components were beneficial part of the web site in order to follow the homeworks and important news. Also, students pointed out that they repeated the course content and they could be aware of the following lesson topic from the course web site regularly. The other student stated that:

4.3.2. Students' Perceptions about the Blended Learning Experiences

One interview question was asked to examine the students' comments about the strongest components of the blended course. One student stated that the instructor's support had an important role to get motivation. She stated that the instructor emphasized the important concepts of the content with the related applications during the face-to-face meetings and this leaded to a strong combination of the online learning and traditional instruction. Students pointed out that they had an opportunity to ask questions to the instructor and discuss the problems related with the project work both in the class and the forum. Another student emphasized the important aspect of the course as the content. He stated that the course content was beneficial to understand the basic structure of the database programs which were necessary for the software programming. Two students emphasized that face-to-face meetings increased their motivation in order to study online. Students said that they gave importance to the weekly face to face meetings in the classroom in order to follow up the course better. One student responded that:

> It was a different learning experience to study in a blended learning environment. The class hours were decreased and this leaded to study personally online in the proper time interval. In the forum session, I had to actively participate into the discussion. Sometimes in the classhour, I refrained from proposing my ideas, but during the online discussion , it was more easy to involve actively into the group work. Also, in the classhours, we could examine the concepts in deep with the help of the instructor.

When the weak aspects of the course were concerned, the students complained about the laboratory sessions. Students stated that although generally they studied in the lab sessions with the lab assistants, they needed the instructor to complete the applications step by step in the lab hours so that they could asked questions on time to better understand the concept. One student mentioned about the content of the blended course and he stated that:

> The content of the course was not sufficient to be given for a whole term, I was familiar with the content of the course previously. Since I was coming from Technical High School and I desired to learn more computer programming and I think that the content of the course could be enriched.

In the interview, when the students were asked whether they would like to take another blended course in the following semesters, all of the participants were agree to take another blended courses. They emphasized that taking a blended course was more preferable instead of taking full online course. They said that they had an opportunity to study the course materials on the course web site whenever they wanted and Also, they could ask questions and discuss course content with the face to face meetings with the instructor and classmates in a better way.

4.3.3. Students' Perceptions about the Level of Communication with the Instructor

In the interview, students' perceptions about the level of communication with the instructor were investigated. Students were satisfied with the instructor's communication and they stated that the instructor's support was sufficient. Students confirmed that having the instructor in the class helped them feel that there was always support in the classroom to follow up the applications and the project work. Students stated that if the instructor support was insufficient, they would be completely lost and confused. Students said that they prefered to use e-mail connections with the instructor apart from the forum. Also, they could easily asked for help from laboratory assistants during the project study in the lab hours. One student stated that:

> The instructor support was the main factor in this blended learning environment. I could communicate with the instructor during the face-to-face meetings in the class in order to ask questions about the content or term project. Also, the instructor responded to the e-mail messages as soon as possible. This supported my motivation to study.

4.4. The Summary of Students' Interview Results

Students' interview responses with respect to the course web site, blended learning experiences and the level of communication with the instructor were summarized in the Table 4. 11.

Table 4.11. Summary of Students Interview Results

With respect to:	Conclusions
Course Web Site	❑ Course web site helped to follow assignments and announcements immediately. ❑ The resources on the course web site were beneficial to study. ❑ Repeating the course content in any time on the course web site was an advantage. ❑ Online studying was difficult experience. ❑ Forum page of the course web site should be redesigned.
Blended Learning Experiences	❑ Face-to-face meetings were beneficial. ❑ Blended learning was more preferable to the online instruction. ❑ The course was a success to understand database concept. ❑ Step by step instruction was needed in laboratory sessions.
Level of Commnuication with the instructor	❑ Instructor's support was sufficient. ❑ Forum was less prefered to be used for communication.

4.5. Instructor's Interview Results

4.5.1. Instructor's Perceptions about the Blended Instruction Experiences

The instructor was asked "What were your experiences with respect to the blended instruction?". The instructor stated that it was difficult to adapt the first year students into an online learning, since they used to take traditional instruction. Apart from the online instruction, students needed to take face-to-face instruction more in order to follow up hands on activities in real class meetings. Since the course content was based on the applications, lab. sessions and face-to-face instruction were required actually more than the online instruction.

When the best feature of the blended course was concerned, the instructor emphasized that face-to-face instruction was supported with the online instruction which provided the students with an opportunity to follow up

the course in seven days within twentyfour hours. The instructor stated that the firstyear students did not used to take an online course. So, with the help of this course, they experienced a different learning environment in which they could benefit from both the face-to-face instruction and the online instruction as well. Besides, the weak features of the course were investigated through the interview. The instructor stated that students faced with adaption problems with respect to the online learning. Additionally, the instructor pointed out that most of the students were living in the dormitories and they could communicate with each other out of the class hours. So, this situation decreased the utilization of the forum as it was aimed.

The instructor was asked about "What kinds of changes you were planning to do for the next term of the course?". The instructor stated that:

> The content of the course could be combined with the previous term course named Ceit 111 which was the prerequisite course of the Ceit 112 course. Two courses could become one course in order to be offered for only one term accurately. The number of the activities and applications could be increased. Also, the online assignments could be conducted and the students could be encouraged to use the forum by grading the level of students' participation into the online activities.

The instructor's comments indicated that the face to face meetings and the lack of grading for the online activities decreased the students' participation rate and interest for the online instruction. Also, students were not eager to follow up online activities, since they needed more hands on activities within face to face meetings.

4.5.2. Instructor's Perceptions about the Online Instruction

The instructor was asked what he thought about the online instruction of the course. When the resources on the course web site were discussed, the instructor stated that these resources were useful and sufficient to establish the theoretical base of the course concepts. Also, the instructor added that most of the students took the print out of the resources on the course site. So, they did not connect to the course web site in order to read the course content. Also, the instructor stated that the course content was based on the technical concepts and students needed to make hands on activities to understand the concept clearly. However, the instructor said that it was difficult to conduct such applications in online instruction. So, these applications were conducted in the face-to-face class hours and lab hours. The other aspect of the web site put forth by the instructor was related with the interface of the forum. The instructor emphasized that students suffered from the utilization of the forum as it had not an user-friendly interface. The instructor thought that this negative aspect of the forum affected the students' participation into the discussion board intentionally. Also, the instructor emphasized that the content was based on technical issues rather than the discussion topics and it was logical to use forum for text-based courses. So, according to the instructor, the students used the forum especially for taking feedback and technical problem solving.

4.5.3. Instructor's Perceptions about the Level of Communication with the Students

In the interview, the instructor's perceptions about the level of communication with the studens were investigated. The instructor stated that:

> Students had an opportunity to ask questions related with the course and project work in face-to-face meetings. In the class, I tried to guide the students to benefit from eachother's knowledge

through working collaborately. When they confronted with any difficult problem, they could easily ask for help to me by e-mail messages in any time and within the class hours I explained the misunderstood points adequately.

According to the instructor, online communication media was not used effectively. Students prefered to use e-mail messages than forum page. Students did not like using the forum for communication, since the course web site did not have an user-friendly forum page. So, the instructor were planning to restructure the forum page of the web site for the following semester. Also, the instructor stated that not only the students, but also he could not adapt to the way of computer mediated communication properly.

4.6. The Summary of Instructor's Interview Results

Instructor's interview results with respect to his blended and online instruction experiences and level of communication with the students were displayed in Table 4.12

Table 4.12: Summary of Instructor's Interview Results

With respect to:	Conclusions
Blended Instruction Experiences	❑ Students faced with adaptation problem with respect to the blended learning environment ❑ Face to face instruction was more required to execute hands on activities. ❑ Course content should be enriched for the following semester.
Online Instruction	❑ Online instruction was not suitable for the first year students. ❑ The lack of online assignments encouraged students for low participation into the online instruction.
Level of Commnuication with the instructor	❑ Face-to-face meetings provided students with an opportunity of communication. ❑ Forum was not used effectively for communication due to the lack of grading for participation. ❑ Students used e-mail communication effeciently to take personal feedback immediately.

CHAPTER 5

CONCLUSIONS

In this chapter, the discussions of results, implementations, and recommendations for further studies were presented.

5.1. Discussions

The purpose of this study was to understand students' perceptions about a blended course which composed of both web based learning environment and face-to-face instruction. This case study was carried out with 25 undergraduate students taking CEIT 112 course at 2004/ 2005 spring semester at Computer Education and Instructional Technology department at Middle East Technical University. The questionnaire was distributed to students at the end of the term. Also, face-to-face interviews were conducted with both the students and the instructor in order to understand their perceptions, thoughts, expectations, recommendations, criticisims and comments with respect to the blended learning environment, online instruction and level of communication.

5.1.1. Students' Perceptions about Their Blended Learning Experience

The blended course which was offered to the students had some impacts on the students. These impacts can be seen from the data results and said to be that this course offering under these web based environment conditions were seemed to be less attractive for them. Although their real thoughts about the

course was somehow positive, they would rather prefer some face to face learning conditions. According to the instructor, the content of the course was based on applications. So, the students required more hands on activities to understand the content. The instructor emphasized that he didn't execute these activities in online instruction and he focused more on the face-to-face instruction part of the course to realize the applications properly. This was compatible with the students' traditional learning habits, since they did not take any online course before and they were not eager to follow up the course from the web site. In other words, the lack of the online activities encouraged the students to give less importance to the online instruction. Pan et al. (2003) suggested that the class instructor need to design and develop activities make the students believe that the quality of online instruction is comparable to that of the face-to-face instruction.

Using web based instruction in education is very well if the course is designed with right constraints. To overcome the problems that students or instructors may have about blended learning, web based instruction should be more efficiently planned and applied. Previous researches have demonstrated that different instructional formats are not predictive of learning effectiveness; rather, the main issue to providing the quality of distance learning lies in the application of proven, theory-based instructional strategies for course delivery (Dick et al. as cited in Wallace et al., 2006). The web environment must not be obliged for all to have the course, and the differentiations between students and the courses should be identified properly. Apart from offering an online instruction without any challenging activities and well prepared course content, it should be necessary to reconsider students' features and needs in order to create a well balanced blended learning environment appropriately. With all these considerations both the students and instructors of these blendend courses may have right feelings about the course yielding the purpose of the blended learning as having more information in an efficient way.

5.1.2. Students' Perceptions about the Course Web Site

The study indicated that students' perceptions about the resources on the course web site can be accepted as positive to some extent. Most of students were agree that the resources on the course web site were clear and comprehensible, but not superficial. Although more than half of students considered the resources on the course web site as beneficial to study, they did not like studying the resources on the course site. This leads to the need for an improvement of the web based learning environment. Toporski and Foley (2004) emphasized the necessity of the authentic learning experiences in web based learning. Authentic learning contexts provide active and engaging experiences where the computer can help mediate course activities and shape the learning in web based learning. Structuring the online learning environment and course materials clearly can assist with the orientation of participants, increase student engagement with the course and assist with the management of information (Quinsee & Hurst, 2005). Interview results showed that instructor did not make the students study the course web site resources by conducting weekly assignments. The lack of grading for the online learning activities might have encouraged the students to not to follow up the course site regularly and intentionally. Pan et al. (2003) stated that the instructor need to announce to the class that using the Web-related instruction is a requirement in the course.

Instructor's interview responses indicated that students faced an adaptation problem with respect to the online learning. Since the participants of the course were freshmen and sophomores, they were not used to study from the web site. Students' studying habits might have negative impact on their perceptions about online learning. Also, most of them were living in the dormitory and they could access to the web site from the computer labs of the dormitories in campus. So, students may not be motivated to the learning environment accurately. Also, Isman et al. (2004) consired both the roles of the distance instructor and the students and stated that distance educator's role

involves an environment that allow for productive activities but it will be the responsibility of students to make environment work for themselves. In the same way, Sims (2003) emphasized that interactive learner environments should be designed to make the learners take more participitory roles and study as an active player in a performance. This leads to that the interactivity constructs can better match the expectations of the learner.

5.1.3. Students' Perceptions about the Level of Communication

Although the level of communication between the students and the instructor was sufficient, students had negative perceptions about the utilization of the forum. Besides the communication through the online tools, and the interaction between the students and instructor were sufficient. Interaction appears to be more important for online instructors in order to prevent the problems related with the management of electronic course materials, student participation, student achievement, and evaluations (Schott et al., 2003). Arnold (2005) stated that 'levels of interactivity offered by various technologies are only potential contributers to learning. They become meaningful components only in the context of the course designs and course facilitators that make use of them' (p.198). Instructor's support was considered positively by the students as the main motivating factor to meet the course requirements. Instructor supported students giving thorough information so that they could successfully access course materials. Most of students believed that they received individual assistance from the instructor when they needed it. Students prefered to use e-mail connection rather than the forum in order to communicate with the instructor. Oytun (2003) conducted a case study of web based learning and she found that although the participants of the web based course were neutral about the level of communication, they liked having e-mail connections with the instructor due to the advantage of timely access to their instructor with the way of e-mail communication. The reason for this preference may be caused due to the need

for the personal immediate feedback and the instructor's attitude toward the forum, since the instructor did not make the students discuss through the forum each week.

According to the instructor, the content of the course was not available to be discussed through the forum due to the technical aspects of the content. Students required hands on application in order to understand the technical part of the content instead of discussion through the forum. Actually, the instructor pointed out that the lack of grading for the communication through the forum leaded to low participation into the forum as well. Students did not need for an obligation to communicate through the forum. Also, face-to-face meetings provided the students with an opportunity of communication with their classmates. Students might have communicate with the instructor in the face-to-face meetings and ask questions to the instructor with respect to the content and project work. So, these facilities might have endorse the students to prefer face-to-face communication to computer mediated communication. The findings of Inan's (2003) study indicated that when the students had an opportunity to interact with each other through face-to-face communication, they did not prefer to use web site for the communication. The other reason for the low participation into the forum may be found that most of the participants were living in the dormitories of the campus, and they could study together out of class hours. This may lead to students to communicate with their peers on campus and they did not need to discuss through the forum on web site frequently. Delialioğlu (2004) reported in his study that the participants of his blended instruction indicated that the participants needed more communication with their peers and the instructor within the blended course and the participants required other form of computer mediated communication tool differ from the forum, since the forum was not used effectively as the communication tool by the students.

5.2. Recommendations for Practice

According to the results of this research study, some recommendations for practice can be given. The possible recommendations can be presented below:

- Although some of students' perceptions about using computer mediated communication tools in the blended course were positive especially for using e-mail connection, most of them were unwillingness to communicate through online communication media. Therefore, the instructor should direct the students to use online communication tools by evaulating quantitatively with the assignments in the course.
- Most of students prefered to use e-mail connection rather than the forum seessions in the blended learning enviroment. Students' perceptions indicated that they liked communicating with the instructor via e-mail connections. So, the instructor should support students to keep on using e-mail for asking questions related with the course. On the other hand, instructor should direct the students communicate through the forum. At first, forum page should be changed with a user friendly version in order to hold students' interest and increase their motivation.
- In this study, there wasn't any grading issue for the online part of the course. The students did not need an obligation for participating into the online activities. Instructor should assess the online learning activities to encourage students to follow up the course web site regularly.
- The online web site of the course should be redesigned so that students find the course web site more exciting to study. Course can provide multiple visual, textual, kinesthetic and/or auditory activities to enhance student learning. While reforming the course web site, instructor should organize challenging activities, proper applications, hands on activities and weekly assignments on web site in order to

make students follow up the course web site and practice for new concepts effectively and let the students understand the content clearly.

- The instructor should consider the background knowledge and the status of the participants while organizing the blended course. The participants of this course were freshmen and they did not take any online course before. The instructor should inform the students about the organization of the blended learning environment and how this blended course will be going at the beginning of the term in order to prepare the students for the process. An orientation program should be offered to introduce these concepts. Also, the content was based on mostly technical concepts and applications. So, the instructor should assist the students to practice the hands on activities in lab sessions at least the beginning of the semester in order to familiarize with the way of online learning.
- The instructor should assign online easy small projects apart from one complicated term project so that the students could be responsible to follow up the online course site regularly. In this way, students could gain self-confidence and constitute intrinsic motivation by working in this step-by-step process.

5.3. Recommendations for Future Research Studies

It is possible to provide some recommendations for further studies related with blended learning environments.

Firstly, the findings of this study demonstrated that students did not demande enough to communicate through computer mediated communication tools. Therefore, another study can be conducted to examine which underlying issues affect the students' perceptions about online communication in blended learning environment. How interaction and communication affect learning outcomes and the relationships among these issues in blended learning

environment are in need of further study.

Secondly, it can be emphasized that this blended learning study was conducted with the freshmen from Computer Education and Instructional Technology department. Another study can be made as a comparison study to explore the difference about students' perceptions among different class of students. This may lead to understand how the increased learning experinence direct students' perceptions in blended learning environments.

Third, another research study can be made to examine the instructor's perceptions in blended learning environment. The perceptions of instructor in a blended learning environment can affect the achievement and attitudes of students in the study. In blended learning environment, the instructor should take more responsibilities to guide students in a right way to reach the desired goals of the course.

Fourth idea for further research study may focus on how different instructional strategies that are used in blended learning environment can affect the students' perceptions and achievement in their learning experience. Also, this kind of study may allow instructors to be aware of the effectiveness of their teaching styles

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APPENDIX A

STUDENTS' PERCEPTIONS OF BLENDING ONLINE INSTRUCTION WITH TRADITIONAL INSTRUCTION IN CEIT 112 COURSE SURVEY

Dear Student,

The purpose of this study to gather information about students' perceptions of their blending online instruction with traditional instruction in ceit 112 course experience. It is particularly important that the findings will be used to improve better teaching and learning environment.

Please take a few moments to fill out the survey. The results will be important to you and your peers. Your personal responses will be kept confidential.

Thank you very much for your cooperation and for being such an important part of this study.

Sincerely,

İlknur Deniz ÇETİZ
Master student of METU CEIT

General Information

1) I'm ☐ Female ☐ Male

2) What is your high school type?

- General
- Anatolian
- Private
- Vocational
- Technical
- Other

3) How many online courses have you taken before this course? _____

4) What is your Cumulative GPA(Genel Ortalamanız): _____

5) How can you define your computer knowledge level?

- Novice
- Elementary
- Intermediate
- Upper intermediate

6) What percentage of the course did you attend?

☐ 75%- 100% ☐ 50%-75% ☐ 25%-50% ☐ less than 25%

7) If your attendance is low, what is the reason for this?

- I couldn't understand the content in the lesson
- I could understand the course material better when I studied the course materials by myself.
- The course hour was very early in the morning
- I couldn't take notes in the lesson effectively

8) Student Living Arrangements

- Live with parents
- Live in Campus Dormitory
- Live off campus with roommates
- Other _____

9) Do you own a camputer?

- Yes
- No

10) Where is the computer that you primarily use to access the course?

- Computer lab in the department
- Computer lab in dormitories
- In my room in dormitory
- In my home/apartment
- Other _____

Students' Perceptions of Satisfaction and Success

Using the scale below, please indicate how strongly you agree or disagree.
(**SA**= Strongly Agree, **A**= Agree, **N**= Neutral, **D**= Disagree, **SD**= Strongly Disagree)

		SA	A	N	D	SD
Q01	The course objective(s) were clear and achievable.					
Q02	Taking a blended course is more convenient.					
Q03	Taking a blended course is boring.					
Q04	I would not take another blended course.					
Q05	I found the online part of the course a better learning experience than face-to-face.					
Q06	I gained skills that are useful in my actual or chosen profession.					
Q07	I logon to the course web site and materials regularly.					
Q08	My instructor gave me through information so that I could successfully access course materials.					
Q09	I spent too much time trying to log onto the course web site.					
Q10	I spent too much time surfing on the web instead of studying.					
Q11	I would recommend taking blended courses to friends or associates.					
Q12	I found learning online to be frustrating.					
Q13	This course contributed to my educational or personal development.					
Q14	I'm confident that I can understand the basic concepts taught in this course.					
Q15	There was enough interaction among the instructor and the students.					
Q16	When I became very busy with other things, I didn't spend much time on this course.					

		SA	A	N	D	SD
Q17	The pace of the course was just about right for me.					
Q18	My instructor clarified the course content with the proper applications in the class.					
Q19	The resources on the course web site was beneficial to study.					
Q20	The resources on the course web site was superficial to study.					
Q21	I liked studying the resources on the course web site.					
Q22	The resources on the course web site was clear and comprehensible.					
Q23	Using online forum made me communicate more with my fellow students.					
Q24	Using online forum made a positive contribution to my learning.					
Q25	I like having e-mail connection with my instructor.					
Q26	My instructor returned e-mail/posts within 24 hours.					
Q27	I received individual assistance from my instructor when I needed it.					
Q28	I believe I will receive an excellent grade in this class.					
Q29	Overall I was very satisfied with this blended learing experience.					
Q30	This was one of the best courses I have taken.					

Additional Statements:

APPENDIX B

Questionnaire Categories Concerning Students' Perceptions

	Item	Students' Perceptions About
1st group	1, 6, 14, 17, 18	The course pace, objectives and content.
2st group	2, 3, 4, 11	Taking a blended course.
3st group	19, 20, 21, 22	Resources on the course web site.
4st group	8, 15, 27	Interaction among the classmates and the instructor.
5st group	23, 24, 25, 26	Computer mediated communication.
6st group	7, 9, 10, 16	Login on to the course web site and spending time for studying course.
7st group	5, 12	Online part of the course
8st group	13, 28, 29, 30	Satisfaction about the course.

APPENDIX C

INTERVIEW GUIDE FOR STUDENTS

Arkadaşlar bu dönem almış olduğunuz Ceit 112 dersi, çevrimiçi öğretimin yüzyüze öğretimle harmanlanması ile gelitirilmiştir. Bende bu durum çalışması ile ilgili olarak izin verirseniz sizlerin Ceit 112 dersi hakkındaki görüşlerinizi almak istiyorum. Bu görüşmede verdiğiniz bilgiler sadece araştırma için kullanılacak, kesinlikle ders notunuzu etkilemeyecek ve gizli tutulacaktır. Görüşlerinizi belirterek bu araştırmaya yaptığınız katkıdan dolayı şimdiden teşekkürler.

1. Harmanlanmış olarak verilen dersin en güçlü yönleri sizce nelerdi?
2. Dersin en zayıf yönleri nelerdi?
3. Dersi alırken karşılaştığınız sorunlar oldu mu? (Varsa bu sorunlar nelerdir?)
4. Online öğrenim deneyimlerinizden memnun kaldınız mı?
5. Online öğrenimin güçlü yönleri nelerdi?
6. Online öğrenimin zayıf yönleri nelerdi?
7. Dersin Web sitesindeki kaynaklar hakkında ne düşünüyorsunuz?
8. Dersin web sitesindeki forum sayfası hakkında neler düşünüyorsunuz?
9. Öğretmeninizle aranızdaki iletişiminiz hakkında neler düşünüyorsunuz?
10. Öğretmeniniz, dersle ilgili karşılaştığınız herhangi bir sorunu çözmek için size destek oldu mu?
11. Bu dersi diğer öğrencilere almaları için tavsiye eder misiniz? Neden?
12. Son olarak bu dersin değerlendirilmesinde faydalı olabilecek eklemek isteğiniz herhangi bir şey var mı?

Katıldığınız için çok teşekkürler.

APPENDIX D

INTERVIEW GUIDE FOR COURSE INSTRUCTOR

Hocam, izniniz olursa bu dönem vermiş olduğunuz, çevrimiçi öğretimin yüzyüze öğretimle harmanlandığı Ceit 112 dersi ile ilgili görüşlerinizi almak istiyorum. Bu görüşmede alınan bilgiler sadece araştırmanın bir parçası olacak ve kesinlikle gizli tutulacaktır.

1. Web destekli öğretimi geleneksel öğretimle harmanlayarak verdiğiniz bu ders hakkındaki genel düşünceleriniz nelerdir?
2. Dersi başarılı buldunuz mu?
3. Dersinizle ilgili olarak karşılaştığınız problemler nelerdir?
4. Dersin web sitesindeki kaynakları hakkında neler düşünüyorsunuz?
5. Dersin web sitesinde ne gibi değişikliklerin yapılmasını öneriyorsunuz?
6. Derste kullandığınız bilgisayar destekli iletişim teknolojileri (e-mail/ forum) hakkındaki düşünceleriniz nelerdir?
7. Öğrencilerle aranızdaki Web destekli iletişimin derse katkısı hakkında neler düşünüyorsunuz?
8. Çevrimiçi öğretim deneyimleriniz hakkında neler düşünüyorsunuz?
9. Sizce bu dersin zayıf ve güçlü yönleri nelerdir?
10. Web destekli olarak verdiğiniz bu dersle ilgili ne gibi değişiklikler yapılmasını öngörüyorsunuz?

Zaman ayırdığınız için ve katkılarınızdan ötürü çok teşekkürler.

APPENDIX E

PARTICIPANT INFORMED CONSENT FORM

I have been informed that this study involves research that will be conducted by İ. Deniz Çetiz, who is a graduate student at Middle East Technical University. I understand that this project is designed to study knowledge acquisition and reaction via blended delivery. I understand that my participation in this study will involve the completion of an interview designed to measure knowledge gained and reaction to the content delivery modality of the Ceit 112 course.

I understand that I may refuse to participate or withdraw from this study at any time without any penalty either in this course or in the academic prpgram generally. If so, none of my data will be included in the results. I understand that my identity as a participant in this study will be kept in strict confidence and that no information that identifies me in any way will be released without my seperate written approval. I am aware that although I may not directly benefit from this study, my participation in this project will benefit the development of data for the blended learning in CEIT 112 course. I understand that if I have any any questions about his project or my participation in this study, I may conduct Deniz Çetiz. I understand that at the end of the study, I may request a summary of results or additional information about the study from Deniz Çetiz. The dissertation supervisor is Dr. Hasan Karaaslan, Middle East Technical University, Department of Computer Educatiom and Instructional technology.

I have read this form and understand what it says, I voluntarily agree to participate in this research project.

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Participant's Signature Date

İ.Deniz ÇETİZ

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Researcher's Signature Date