LEARNERS' PERCEPTIONS OF A WEB ENHANCED COURSE

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Approval of the Graduate School of Natural and Applied Sciences

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ABSTRACT

LEARNERS' PERCEPTIONS OF A WEB ENHANCED COURSE

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This study examines students' perceptions about level of communication, online course support, satisfaction in a web enhanced course and students' feelings about computers and the web. Addition to them gender differences in students' perceptions were studied. The data were collected by using survey at the end of the term and analyzed by using descriptive statistical analyzing methods. Results showed that students' feelings about computers and the web were slightly positive. Students' perceptions about online course support were slightly positive. Students' perceptions were neutral about level of communication and satisfaction results. No difference has found in students' computer and the web feelings, level of communication, online course support and satisfaction results in terms of gender.

Keywords: Web enhanced course, online education, distance education, students' perceptions.

ÖZ

WEB-DESTEKLİ BİR DERS HAKKINDA ÖĞRENCİLERİN ALGILARI

Oytun, Erden

Yüksek.Lisans, Bilgisayar ve Öğretim Teknolojileri

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Bu tez çalışması öğrencilerin bir web destekli öğrenme ortamında iletişim düzeyi, memnuniyet, çevrimiçi ders destek algılarını ve öğrencilerin bilgisayar ve web hakkındaki duygularını incelemektedir. Bunlara ek olarak algılamalarındaki cinsiyet farklılıkları incelenmiştir. Veriler ders sonunda anket yoluyla toplanmış ve tanımlayıcı istatistiksel analiz yöntemleri kullanılarak analiz edilmiştir. Sonuçlar öğrencilerin bilgisayar ve web hakkındaki duygularının biraz olumlu olduğunu göstermektedir. Öğrencilerin çevrimiçi ders destek düzeyini algılarının biraz olumlu olduğu görülmüştür. Öğrencilerin, iletişim düzeyi ve memnuniyet algıları nötrdür. Öğrencilerin bilgisayar ve web hakkındaki duyguları, iletişim düzeyi, çevrimiçi ders destek ve memnuniyet algılarındaki cinsiyet farklılığı görülmemiştir.

Anahtar Kelimeler: Web destekli öğretim, uzaktan eğitim, çevrimiçi iletişim, öğrenci algıları

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CHAPTER 1

INTRODUCTION

1.1 Background and Rationale for the Study

Information is the most important concept for twenty-first century's society. Institutions, corporations and governments use "Life Long Learning" slogan to emphasize its importance for the future of the society. They also see higher education institutions as main source of information. The increase in the number of students in Higher Education Institutions, inclination for certification programs for working people, the increase in the number of master or doctoral program graduates are some of the impacts of this information society.

Higher education institutions seek new solutions for this tremendous demand in education. With the rise of Internet in 1990's, they began to consider Internet as education medium (Vargo, 1997). Zafeiriou, Nunes & Ford (2001) stated this change as follows:

> Changing circumstances are pushing Higher Education institutions to develop online web-based curricula in order to respond to increasing demands from both society and industry. The adoption of web-based distance and flexible learning environments is enabling universities to reach increasing number of students in both traditional education, and further continuing education. (p.83)

In addition reasons for this trend in web based learning generalized by Hatch (2000) as follows,

- To reduce costs in an environment where overall funding is falling

- To cater to growing demands for greater flexibility in how, when and where education provided

- To provide a means of controlled communications for distance education students

- To attract new students on fee paying basis from overseas and interstate; and to differentiate their products from other providers. (p.1)

Opportunities and advantages of this new and exciting environment attracted Higher Education Institutions, administrators and learners and an increase in the number of web based education programs is revealed.

According to Guberrick & Edling (1997) fifty-five percent of colleges and universities in USA now offer web-based courses, in 1997. As to the College Technology Review, 2002-2003 Academic Year report, more than two-thirds (67%) of colleges operate a web-based program, with almost half of these schools reporting that they offer an accredited degree.

Also higher education institutions investments on distance education technology are increasing. It is stated in Market Data Retrieval, The College Technology Review, 2002-2003 Academic Year report that

> In US, ninety-four percent of colleges reported the use of a course management system, up 11% over last year. Among schools with a single CMS, Blackboard recorded the largest share of the market with 46%, WebCT came in second with 35%, and eCollege retained the third spot with 4% penetration. (p.2)

As a result Nacos, Deis & Jourdan (2002) pointed out, after higher education institutions investments in technology, they seek for ways to reach students more "efficiently and effectively". Olson and Wisher (2002) noted that the increase in the use of web based instruction, importance of evaluating its efficiency, effectiveness and effects on student outcomes such as learning, performance, and satisfaction had recognized by researchers.

In a comprehensive study by Olson and Wisher (2002), The Educational Resources Information Center (ERIC) and Psychological Abstracts databases were searched for assessing current practices in evaluating web based instruction. The findings of the search were revealed over 500 studies, most of them concerned recommendations for the design of online courses or technology concerns rather than an evaluation of a specific course. They grouped the variables assessed in those studies into eight categories. Demographics (47%) (Age, gender, race), previous computer/internet experience (13%), course design (45%), effectiveness of the instructor (18%), technical issues (12%), level of participation/collaboration (12%), recommendations of the course to the others (3%) and desire to take additional online courses (6%). As it is seen from the percentages, there are a few studies that evaluate the quality of interaction or collaboration in the course, effectiveness of the instructor, or technology itself. This study also shows that 36% of the online studies focused on blended or web enhanced courses. The results of these studies help showing the factors that affect web based learning environment.

Cooper (1999) discussed the three steps which should be taken into account while developing an online course. The results of this survey revealed that online students had high level of satisfaction and they were satisfied with the online messages and interactive features of the course. Cooper concluded that, if the course was well designed and carefully implemented, online instruction could provide an effective and appealing learning environment.

In terms of effectiveness Johnstone and Krauth (1996) reported that achievement and satisfaction of students taking online courses is not significantly different from the students taking on-campus courses.

The results of Nakos, Seis & Jourdan (2002) study, indicated that a good online course should be interactive. If constant communication between the instructors and students lacks, the course satisfaction would possible of decline. In addition to satisfaction, students' point of view of success was examined in Nakos, Seis & Jourdan (2002) study. They found that issues such as availability of class notes, study guides, ease of asking questions, interaction and to get assistance easily

when needed were important in students' success. In a study by Driver (2001), it was found that small group interaction affected student satisfaction positively.

Nakos, Seis & Jourdan (2002) claimed that communication is different than traditional environment in online learning environment. They pointed that

> It is very important for students to understand the technology and to be very clear about the course guidelines. Simple tasks, like scheduling exams and answering questions can become major issues if a clear communication network does not exist in the on-line environment.(p.3)

Similarly, Robinson (1995) emphasized the importance of student support though assistance and guidance from various sources. According to them, distance education programs provide three means of support for students. First, academic support provides students with cognitive and meta-cognitive tools and resources needed for linking student performance to course goals. Second, affective support refers to the motivational needs of the student. Third, administrative support involves assistance with logistical components such as registration, fee payment, and ordering of course materials.

In his comprehensive study, Young (2000) claimed that Web based instruction expects learners to take more initiatives in actively seeking and sifting through available information. He found that learners with superior self-regulatory capabilities performed better in learner controlled CBI than program controlled instruction. He added other results as follows:

> However, those with poor self-regulatory capabilities were at considerable disadvantage in learner-controlled CBI, which permitted even required substantial control from the learners over the pace and content of their learning. (p.09)

As a result of the study, he indicated that teachers, trainers and instructional designers of web-based instruction would benefit by being more attentive to students' perceptions of efficacy.

Number of studies in web-based learning is rising day by day in the literature. Web based learning is a new concept. That there are so many variables that might affect the efficiency of these environments such as feelings about

computers, feelings about the web, level of communication, level of online course support, satisfaction etc. Therefore, there is need to examine these issues in regard to web-enhanced learning in further research studies.

1.2 Purpose of the Study

The purpose of this study is to investigate the perceptions of the university students in a web enhanced course and to identify learners' perceptions about level of communication, online course support, satisfaction, computer and the web feelings and their relationship with gender.

1.3 Research Questions

The research questions to be answered by this study are as follows:

1. What are learners' feelings about computers?
   1.1. Is there a significant difference between males' and females' feelings about computers?
2. What are learners' feelings about the web?
   2.1. Is there a significant difference between males' and females' feelings about the web?
3. What are learners' perceptions of online course support in the web enhanced course?
   3.1. Is there a significant difference between males' and females' perceptions of online course support?
4. What are learners' perceptions of level of communication in the web enhanced course?
   4.1. Is there a significant difference between males' and females' perceptions of level of communication?

5. What are learners' perceptions of satisfaction in the web enhanced course?
   5.1. Is there a significant difference between males' and females' perceptions of satisfaction?

1.4 Significance of the Study

The results of the study will present the perceptions of students, currently involved in web enhanced courses and provide valuable information to instruction designers and administrators of web enhanced courses on programs.

Research studies related with all types of online education help to understand web based instruction and its affective implementations. Romiszowski (1997) claimed that "While research into online learning, in particular the use of CMC[computer mediated communication], is probably growing faster than any other area in educational technology, it is still the area with the greatest need for further research as we know little about the effective implementation of CMC in distance learning."

Although there are many research studies done in the area of online education, not much research was found in the field of web enhanced courses implementations (Olson & Wisher, 2002). The results of this study will contribute to the literature in this respect.

Majority of the studies done related with web based education examined web based instruction from only one or two dimensions; and the literature fell short in examining web based instruction from multiple dimension. This study investigates an web enhanced course from multiple dimensions. Therefore, the results of this study will provide valuable information to the related literature.

1.5 Definition of Terms

In this section, brief explanations for the important terms used within the study are provided in order to assist the reader in understanding the study.

Computer-Mediated Communication: "a process of human communication via computers, involving people, situated in particular contexts, engaging in processes to shape media for a variety of purposes" (December, 1997,3)

Web enhanced course: This is a type of online course, which uses both face to face meetings and web delivery.

Web based Instruction: "Web based instruction (WBI) is a hypermedia-based program that utilizes the attributes and recourses of the World Wide Web to create a meaningful learning environment where learning is fostered and supported" (Khan, 1997,p.7).

Asynchronous Communication: "Communication that takes place in different time frames and is accessed at the participant's convenience, such as electronic mail and voice mail. Interaction between participants is time-delayed." (Lee, 2002, p.18)

Level of Communication: " Number of communication options supported by course software and degree to which students find these options useful in facilitating the course communication flow "(Ham, 2002, p.80).

Student Satisfaction: "Student satisfaction is defined s the student-perceived value and quality of instruction in a course" (Chiu, 2002, p.15).

Online Course Support: Online course support is the opportunities, offered in digital environment by the instructor, course software or institution, to support students' learning activities in an online/web enhanced/ hybrid course.

CHAPTER 2

LITERATURE REVIEW

In this chapter, literature related to the following topics will be reviewed: web based instruction, theoretical basis of web based instruction, advantages and limitations of web based learning, online learning and computer mediated communication, synchronous and asynchronous communication, theoretical bases of computer mediated communication, advantages and limitations of computer mediated communication and research studies related to the study.

2.1 Web Based Instruction

World Wide Web, as one of the important innovations of the century, started its distribution in 90's and its growth is greater than expected (Relan & Gillani, 1997). According to Crossman (1997) this unexpected increase was "astonishing". In his paper, he stated that an increase in the number of host and networks was 25-26 times in years 1991-1996. These caused World Wide Web become "an increasingly powerful, global, interactive, and dynamic medium for sharing information" (Khan, 1997, p.1).

World Wide Web has the potential "to become the most comprehensive communication system, ever developed" (Crossman, 1997, p.23) and " to support the creation of well-designed resources" (Khan, 1997, p.1). This potential of Web, "as learning and instruction medium introduced Web based Instruction" (Crossman, 1997, p23).

Khan (1997) defined Web based Instruction as "an innovative approach for delivering instruction to a remote audience, using the web as the medium"(p.1). Another definition was came from Rehan& Gillani (1997), "Web based Instruction is the application of a repertoire of cognitively oriented instructional strategies implemented within a constructivist and collaborative learning environment, utilizing the attributes and resources of the World Wide Web" (p.43).

These definitions imply that Khan, Rehan & Gillani concerned with instructional design of web based learning environments and also other definitions of Web Based Instruction supported their concerns (Daugherty, 1997)

Addition to these definitions, Sherry & Wilson (1997) pointed out concept of WBI as

> The ultimate concept of WBI is to set up a structure where all members of the learning community come to share knowledge and skills, to learn how to access necessary resources, to create new knowledge, and to disseminate it throughout both the local and global learning communities (p.74).

Also Sherry & Wilson (1997) noted that this new concept differs from the existing system. Addition to this, they added that changes in existing curriculum and instruction would occur in adoption process. Daugherty (1997) pointed out, Web based Instruction's effect on higher education and its potential as

> WBI offers one medium for higher education to accommodate the information age and a networked world. Indeed, WBI has the potential to replace traditional university level education altogether and could provide a catalyst for a total reconceptualication of education in general. (p. 24).

Web Based Instruction is growing faster; more universities are using Web Based Instruction as an integral of instructional activities (Mccraw, 1999; Valenta &Therriault, 2001; Olson &Wisher, 2002). There are currently much studies being done to experiment with the use of Web technology in delivering educational programs. Despite that Daugherty (1998) claimed, "little research evidence exists to support claims for the effectiveness of Web based

Instruction."(Reeves &Reeves, 1997). Also Olson &Wisher (2002) study has supported Daugherty's statement.

In their comprehensive study, Olson & Wisher (2002) constructed research on content analysis of the published literature and identified more than 500 qualifying studies conducted in Web based Instruction between August 2000 and July 2002. However, they recognized that most of these studies related with recommendations for the design of online courses or technology concerns. Others were analyzed and found that the evaluations included in these studies fell into two categories. One of these categories was assessment of student performance and reactions relative to a single course. The other was comparison of web based instructional approaches to conventional classroom instruction.

Siegel & Kirkley (1997) proved their research and recommended as

> Because we are in the early stages of Web based Instruction, we are often more fascinated with the daily unweiling of new tools than with the ways teachers and students will use these tools to think out, as Richard Saul Wurman mellifluously described, " a tsunami of data…an unorganized, uncontrolled, incoherent cacophony of foam." We need to lessen our preoccupation with Web glitz and, instead, refocus attention on the creation of the Digital Learning Environment. As this environment increases our commands of the skills, knowledge, and wisdom we need, this capability to lead us into creative of powerful new medium is surely the chief value and best destiny of Web based Instruction. (p.268)

2.2 Theoretical bases of Web Based Learning

The developments in the telecommunication era caused changes in the field of distance education. In recent years, research in the field of distance education focused on management and cost-effectiveness, instructional design, evaluation, also legal, social and international issues most of which has not include theoretical basis (Saba, 2000). Also he claimed that new strand of research; grounded on the theory of transactional distance leads to fully understand the field of distance education.

Theory of Transactional Distance as developed by Moore hypothesis that distance is a pedagogical phenomenon. Moore & Kearsley (1996) defined transaction as

> Transaction we called in distance education is the interplay between people who are teachers and learners, in environments that have special characteristics of being separated one and another, and a consequent set of special teaching and learning behaviors (p.200).

Also they defined transactional distance as

> The physical distance that leads to a communication gap, a psychological space of potential misunderstandings between behaviors of instructors and those of the learners. (p.200)

Moore & Kearsley (1996) defined dimensions affecting the instruction in distance learning environment as interaction (Chen, 2001), dialog, course structure and learner autonomy. They defined three types of interaction as important in distance learning environments.

- Learner-Instructor interaction
- Learner-content interaction:
- Learner –Learner interaction

In comprehensive literature review of Chen (2001), he claimed that with the development in telecommunication transactional distance expanded and new dimension of learner-interface interaction, defined by Hillman, Wills and Gunawardena (1994), added to the Moore's interaction types.

According to him, development and distribution of World Wide Web (WWW)'s effects on the new learning environments, that are based on theory of transactional distance, did not studied sufficiently. He conducted a research that identifies the dimensions contributing transactional distance in the World Wide Web (WWW) learning environments. He found that the degree of occurrence of the four dimension of transactional distance was positively correlated, but the correlation was not high. In his study, the degree of transactional distance

reported by learners was low. The results showed that his analysis supported the existence of transactional distance. He concluded that concerning the factors of transactional distance should be taken into account to overcome online courses.

2.3 Advantages and Limitations of Web Based Learning

Flexibility and convenience of web-based environment is the main advantage of it. Arbaugh (2000) found that students were satisfied with Web-based courses because of the perceived usefulness of the learning software and the flexibility and convenience that the online delivery mechanism provided. In Visser and Visser's study (2000), almost half of the study participants cited flexibility of the instructional mode as the primary reason for choosing to enroll in distance education courses.

Also Web based instruction enables students to learn when ever they want and on their own (Garnham & Galeta, 2002). This important characteristic of WEB BASED INSTRUCTION gives learners to "control aspects of the lessons" (Hannum, 2001, p15). For changing circumstances, changing the content of the instruction requires time and money. However, easy to update nature of Web based instruction makes adding new contents or revising the content according to the needs possible (McManus, 1996).

According to Richardson &Swan (2003), changing the roles of the instructor and students was seen as an advantage, they stated that

> "With the altered educational environment, the roles of students and instructors may also be transformed. The role of the instructor can be altered to become more akin to a facilitator than a lecturer, while the role of students can be altered by allowing them to become active learners" (p.69)

Another advantage is collaboration possibilities that web based instruction offers. Web based instruction gives an opportunity to include different forms of collaboration (Hannum, 2001). This opportunities was listed by Hannum as follows

- Learners can use the Internet or intranets, to communicate with other learners or instructors via e-mail, discussion forums or chat.

- Learners at different sites can work as members of virtual groups to complete case studies.

- Learners can participate in discussions about lessons even though are at remote locations. (p.16)

He also included that collaboration possibilities for students in different locations is an important advantage of WEB BASED INSTRUCTION. Also with the opportunities of the web, web based learning offers effective ways to teach physically distributed learners (McManus, 1996).

From economical viewpoint, web based instruction offers inexpensive way to deliver instruction (Barron, 1998). In addition to this distribution, printing, duplicating costs are reduced in Web based Instruction (Hannum, 2001). Web Based Instruction courses placed in a server where delivering is not a problem. Learners only need Internet connection and web browsers.

Not only the advantages but also the limitations of web-based learning should be analyzed so that web based learning potential would be seen. Opposite to the advantages above, there are some limitations of Web Based Instruction. Most significant of them is available bandwidth (Hannum, 2001; Olson & Wisher, 2002). Learners, connected with dial up, would have some problems with web-based courses enhanced with multimedia elements (Hannum, 2001). Although Web Based Instruction environments would include asynchronous and synchronous communication tools, the interaction in these environments would not substitute for face-to face communication (Hannum, 2001).

Web Based Instruction is not appropriate for all subject areas and skill types. Psychomotor skills, that requires more than just textual materials such as repetition of practice and feedback is not suitable for delivering Web Based Instruction (Driscoll, 1998).

Lastly, developing Web Based Instruction is not a basic process. It requires a team that consists of instructional designers, subject matter experts, end-user support personal and web programmers etc. (Driscoll, 1998). So, for universities developing Web Based Instruction also related with the resources of the universities.

2.4 Online Learning and Computer Mediated Communication

To understand dynamics of online learning it is necessary to identify all aspects of it. Vonderwell (2002) explained online learning and computer mediated relation well.

> An in-depth understanding of the attributes and the pedagogy of the web-based instruction is important for successful utilization of technology tools for learning. Student perspectives and experiences can provide an in-depth understanding effectiveness of web-based learning. The communication experiences of students need to be studied in-depth to analyze the effects of computer-mediated communication in online learning. An increase in the amount of communication messages does not necessarily imply an increase in the quality of learning. It is important to gain an understanding of the dynamics of computer-mediated communication. (p.81)

Computer Mediated Communication (CMC) has been defined as "a process of human communication via computers, involving people, situated in particular contexts, engaging in processes to shape media for a variety of purposes" (December, 1997,p.3). According to Romiszowski this process includes "any form of organized interaction between people" (Romiszowski, 1997, p.32).

Computer mediated communication is growing quickly according to other areas in educational technology research (Romiszowski & Mason, 2001). The rapid growth of computer networks and the evolution of the Internet have increased the use of Computer Mediated Communication, which plays a significant role in web-based delivery of instruction. Also building online learning context necessitates "using computer-mediated communication as a tool for instructional

support. That support can range from simply providing students with electronic mail in an otherwise traditional class, to actually delivering instruction and supporting student-to-student and student-to-teacher interactions at a distance" (Santoro, 1995, p. 12).

In his comprehensive study, Hannum (2001) divided computer mediated communication environments into three levels according to interaction they provided. Hannum explained this levels as

> At the simplest level, the commuter mediated communication model consists of e-mail between instructor and student. This is point-to-point communications. Another option is to use listserv, an Internet mailing list that automatically send a message to everybody on the list. By using listserv, the computer-mediated communications WBT model could incorporate point-to multipoint communications, allowing any participant to post a message to all other participants. By using discussion forums, computer mediated WBT model could allow a "class" of learners to carry on an asynchronous discussion about topics in a course. The instructor could pose a question or raise an issue and any class participant could contribute to the discussion. At a higher level of sophistication, computer mediated communication WBT model include synchronous computer conferencing using desktop video or chats. (p.156)

2.5 Synchronous and Asynchronous Communication

Asynchronous (e-mail, discussion forums, listserv) and synchronous (chat, audio and video conferencing, electronic whiteboards) are "well-known" (p.403) forms of computer mediated communication systems. (Romiszowski & Mason, 2003, p.403). "Asynchronous forms seem to predominate, wherein there is a, potentially significant, time delay between sending a message and it being read." (Romiszowski & Mason, 2003, p.398).

2.5.1 Electronic mail (e-mail)

Using e-mail for communication increased by distribution of computers. In business life; e-mail is used for transfer information. Addition to its general use, e-mail is the most common asynchronous communication tool (Horton, 2000). It allows students to ask questions to instructors in a non-threatening and time independent way. (Vargo, 1997)

Bannan & Milheim (1997) described that e-mail might be used for "course interaction" in web based instruction. They implied the implementations of e-mail in web-based instruction as

- Asynchronous communication between instructor and students.
- Facilitation of questions and answers
- Submission of coursework.
- Completion of electronic forms.
- Facilitation of course surveys, evaluations, evaluations and other course related activities. (p.385)

Also literature supports their list of implementations of e-mail: Olson & Wisher (2002) noted that e-mail might be used for strengthening the interaction between student and instructors. William & Peters (1997) explained that supporting instructional or technical issues that students encountered with e-mail is possible. In online learning environments students have an opportunity to ask questions any time and get immediate feedback from them by using e-mail.

2.5.2 Discussion groups (Forum)

Discussion forums' main characteristic is archiving messages. Whether messages archived by individuals or by the system, they introduce us features different from the interaction, we encountered in face to face interaction. (Romiszowski&Mason, 2003).

Discussion groups have some advantages over e-mail and chat. Horton (2000) compared chat and e-mail with discussion groups in terms of organization of information, on topic conversation and immediacy. He stated that

> Chat is usually restricted to hectic exchange of small ideas, immediate reactions, and emotional responses among only a few individuals. By the time someone can compose a thoughtful response, the topic of the conversation has changed several times. A discussion list in e-mail lists lack continuity and organization. (p.353)

In Romiszowski & Mason's (2003) excellent review of literature, they criticized forms of Computer Mediated Communication discussions that "tendency for a few members to dominate the discussions, or for the majority to lurk and not actively participate or contribute messages to the discussion forum."(p.399).

To investigate the factors that affect student participation in asynchronous discussion forums, Oliver and Shaw (2003) conducted a study that analyses the usage of asynchronous discussion forums in medical education. Finding of the study showed that taking into account the discussion forums in students assessment directly effected students discourse. However how to measure this participation was an issue to be considered. Also they found that tutors' enthusiasm and expertise directly relevant with success of discussion forums.

2.5.3 Chat

The characteristics of chat identified well by Horton (2000) as

- 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.

- Leaves 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 chatting, it can be difficult to keep up.

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

- Often ignored by learners: Chat, though popular for social exchange, is not the most popular feature in many WBT. (p.

Palloff and Pratt (1999) emphasized that despite the fact that, physically dispersed groups ask for synchronous communication, in practice this type of communication might not be effective. They explained that

> We find that it rarely allows for productive discussion or participation and frequently disintegrates into simple online contribution of minimal depth. It can replicate face to face classroom in that the participant who is the fastest typist will probably contribute the greatest amount of the discussion, thus becoming the "loudest voice" in the group. (p.47)

According to Palloff and Pratt (1999), for internationally distributed students, arranging time for chat sessions is a big problem. Another issue is organization of the online communication (Palloff&Pratt, 1999). They implied that

> Concern in synchronous communication is the ease, which members can become confused and overloaded if guidelines for participation are not established at the start. A discussion occurs in real times, members may not be able to keep up with the pace established. (p.48)

In addition to its usage in online courses, it is used to support web enhanced courses. However in a study conducted by Driver (2002), its usage and responses of the students was unexpected. Students did not use chat function and they reported that "the chat function seemed cumbersome to use and that they preferred face to face meetings if they had to meet at the same time at all" (p.39).

2.6 Theoretical Bases of Computer Mediated Communication

Engagement theory, social Presence theory and media richness theory is presented as the theories that help to understand computer mediated communication.

Experiences of Kearsley and Shneiderman in web based learning environments exposed engagement theory. Main thought of the theory is "students must be meaningfully engaged in learning activities through interaction with others and worthwhile tasks" (Kearsley & Shneiderman, 1999). Although engagement theory is a new theory, it includes some elements of problem based learning, authentic learning and collaborative learning. The main three principles of the theory is 1) occur in a group context 2) are project-based, 3) have an outside focus. These components, shortly named "Relate-Create-Donate" (Kearsley & Shneiderman, 1999).

Collaborative learning basis component, Regard principle emphasizes that learning is occurred collaboration in teams. In collaborative learning, students by "clarifying and verbalizing the problems" (Kearsley & Shneiderman, 1999,p.5) would overcome their problems and facilitated to master their subject. Computer mediated communication tools are used for collaborative learning such as, e-mail, bulletin board, chat and video/audio conference.

Second principle, Create, changes learning process into meaningful real life projects, which are "purposeful and creative activities" (Kearsley& Shneiderman, 1999, p.6). Students have to define and conduct projects that sense of control on the learning process is on students. It enables students to present their work to their classmates, peers and the entire world. So that they began to consider the project as their own, and want to do their best.

Third principle of engagement, Donate, exposed that formal education merged with the real work will be valuable for students that enables meaningful learning. Students conducts projects to costumers, which increases their motivation, that they should know what the costumer wants and needs and should provide

effective solutions to their problem which is not the general case in formal education.

Social presence theory (Short, Williams & Christie, 1976; cited in Bubas, 2001) states that different communication media enable different levels of experience of the social presence of other individuals who are engaged in communication. Also Rourke, Anderson & Garrison (1999) explained social presence is"...as the ability of learners to project themselves socially and affectively into a community of inquiry"(p.3). Understanding the social presence theory leads to realize treating differences of learners in face to face settings and online settings.

Media richness theory (Draft & Lengel, 1986; cited in Bubas, 2001) stated that transmission of rich information requires instantaneous feedback and higher level of interactivity of a rich medium. Face to face information has the richest form of communication available (Bubas, 2001). Because of this other communication types are compared with face to face communication.

2.7 Advantages and Limitations of Computer Mediated Communication

From the above description it should be obvious that Computer Mediated Communication is an integral part of the online learning. Computer Mediated Communication, that enables interaction between people, has some advantages and also limitations, which should not be underestimated.

Zellhofer, Berge & Collins (1998) identified the advantages of CMC as increase "organization, productivity, flexibility, interactions, individualized learning, and greater access to global networks of information than any other medium "(p.1).

Social barriers, which were difficult to deal with in the past, were diminished with usage of CMC in online learning. (Zellhofer et al., 1998; Lane, 1994; Romiszowski & Mason, 2001). People with different social background took part in CMC environments easily (Zellhofer et al. 1998). Also CMC is able to overcome time and space limitations. (Lane, 1994).

Zellhofer et al. (1998) defined cultural awareness as an advantage of Computer Mediated Communication.

> Computer-mediated communication activities can be designed to promote increased cultural awareness. Not only can students communicate directly with people all over the world, but they can research interesting topics about various countries, cultures, and natives. ……. Although continents apart, CMC can bring students together and foster mutual understanding by overcoming local, regional, national, and international boundaries. (Zellhofer et al. 1998, p.17)

Romiszowski & Mason (2001) emphasized the potential of Computer Mediated Communication according to other forms of computer-based instruction. Addition to this, they threw light on flexibility and potentially affluence of interaction in a Computer Mediated Communication environment. Also flexibility enables individualization in learning (Zellhofer et al., 1998). According to Romiszowski & Mason (2003) not all forms of Computer Mediated Communication offers high flexibility. Synchronous Computer Mediated Communication has some advantages such as "adding immediacy and increasing motivation "but also synchronous Computer Mediated Communication "reduces flexibility (p.397).

Next, Computer Mediated Communication allows students to use several different styles of learning, including instructor-directed discussion, group discussion, guest lecture, presentation, and brainstorming (Eastmond & Ziegahn, 1995). This flexibility and diversity allows the learning experience to become more personalized and individualized. (Zellhofer et al. 1998)

Computer Mediated Communication gives opportunity to shy people to share their feeling and thoughts freely. People, who are frustrated in face to face environments, with the help of flexibility of Computer Mediated Communication environments become part of that community. (Lane, 1994; Romiszowski &Mason, 2003)

Lack of interaction in distance education was diminished with the use of Computer Mediated Communication tools. They allow interactions between

students and teachers in their learning environment. However in spite of its advantages, Computer Mediated Communication also has some pitfalls.

Zellhofer et al. (1998) identified that Computer Mediated Communication is not suitable for all learning domains and all purposes in education. They pointed out that Computer Mediated Communication could be effective for "information collection, writing, analysis, problem solving, information gathering and dissemination, and sharing interests, feelings, and attitudes in the cognitive and affective domains of intellectual skills and attitudes" (p.3).

According to Lane (1994), information overload is one of the disadvantages of Computer Mediated Communication. Ruberg, Moore, & Taylor (1996) study, students reached to too much information and they informed that they did not like to read so many posts.

Also preliminary to use Computer Mediated Communication tools or applications for communicating and interacting, people should learn skills or information on how to use them (Lane, 1994). So that process of integration expands and requires extra time.

With Computer Mediated Communication approach role of the teacher in class changes from information giver to motivator. This learning-centered approach in instruction comes with some new issues. Traditional instructional design, lesson plans, preparation to lesson would not work in this new setting. Instructor should work much more than traditional class on new strategies and course preparation (Lane, 1994). Also adapting to this new approach and preparing the lessons for Computer Mediated Communication courses would take much more time for instructor (Romiszowski & Chang, 2001). With new roles and duties instructors role become more complex and this new items changed their job description (Romiszowski & Chang, 2001).

Another problem in Computer Mediated Communication identified by Romiszowski & Chang (2001) was discourse. In spite of discourse's advantages, it comes with difficulties of control of discourse. They explained this control problem as,

> The instructor loses come of the benefits offered by a face to face group situation. When the discussion drifts the topic, it often takes longer, and is more difficult, to bring the group back on task. There s also the problem of knowing who is participating. There is only knowledge of who is contributing.

2.8 Research Studies

Students' self-reported level of satisfaction with the online course has been examined by various studies. Several researchers have explored various factors of student demographics that could be viewed as predictors of satisfaction and success in distance education courses and programs. There is strong evidence in the literature that increased satisfaction in online courses depending on interaction (Picciano, 2002).

Similarly, Shea, Fredericksen, Pickett, Pelz & Swan (2001) found that students who has high level of interaction with their instructor, reported higher level of satisfaction with the course. Also students reported higher levels of learning than students who thought they had less interaction with the instructor.

In their research study, Mourtos & McMullin (2001) found that although students were not certain on Internet's effectiveness in delivering instruction, they were satisfied with the quality of their online education. Mourtos & McMullin (2001) indicated that graduate students were better prepared for the demands of an online course than undergraduates in some extend.

Furthermore, in a study by (Rivera, McAlister & Rice, 2002) the researchers found that delivery problems students computer and web literacy, lack of support are related with the level of satisfaction with online courses. They stated that overall student performance was not affected from students' satisfaction levels, even though students reported low satisfaction scores.

Students' perception of online course support in web-based course is another important issue. In Vonderwell's (2002) research study, she found that online course support from the instructor is an important factor that influences

effectiveness of instruction. Also immediacy of support and feedback from the instructor were indicated as important factor. Student reported that delay factor is important and may influence learning.

In Hara & Kling (1999) research study, some of the students, have low computer literacy levels, stated that they encountered some technical problems. Addition to this, students indicated that they are frustrated because of the lack of technical support and because of the instructor that delayed feedback of students.

The National Centre for Vocational Education Research in Australia conducted an extensive study on learner expectations and experiences (Choy, McNickle & Clayton, 2002). Most expected services for technical support were asked. Results showed that

- Quick response to technical problems
- Easy access to technical assistance
- Provision of technical (IT) assistance throughout the course
- Strategies for checking the accuracy/quality of information on the internet
- Access to frequently asked questions and responses about technical issues (p.34)

were the most expected services. Also they investigated that if the technical support responses change with student characteristics such as age, gender or employed status. They found no significant difference for services of technical support.

Students' perceptions of their learning may be as good as other measures because these perceptions may be the catalysts for continuing to pursue coursework and other learning opportunities. Student performance is well understood to be a multivariable phenomenon affected by study habits, prior knowledge, communications skills, time available for study, teacher effectiveness, etc.

Shea et.al. (2001) concluded that the relationship of satisfaction, interaction, and performance (grades). The greater the percentage of the course grade that was based on discussion, the more satisfied the students were, the more they thought they learned from the course, and the more interaction they thought they had with the instructor and with their peers.

According to Keegan (1996), measuring student success is a "preoccupation" in distance learning especially where adults were concerned.

The literature on quality issues in distance learning suggests that multiple measures related to individual academic program and course objectives should be used in studying student performance (Picciano, 2002). The results of his study support the findings of other research studies, which establish a strong relationship between students' perceptions of the quality and quantity of their interaction and perceived performance in an online course.

While much of the research including this study, support the strong relationship between students' perception of interaction and perceived learning, the results of this study indicated that the relationship of actual measures of interaction and performance are mixed and inconsistent depending upon the measures.

Many researchers have studies issues such as the performance of students and social presence relation in online courses (Gunawardena & Zittle 1997) and the performance of students in online courses versus the performance of students in on campus classes (Cooper, 2001). However, there were few studies conducted on how students perceive online courses.

Also limited research studies have explored factors that predict the success of distance learners. In a comprehensive study of Chiu (2002) showed perceived course quality does vary with the student previous academic achievement, after controlling for the influence of relevant student demographics characteristics.

Although they are limited, there are some studies conducted in Turkey. Koç (2002) conducted a research study that investigated perceptions of students about learner benefit, learner support, motivation and collaboration in a computer mediated communication environment in terms of gender. He found that, though there is mean difference in favor of females, there were no gender differences.

A research study that investigates students' perceptions of web enhanced learning environment conducted by Yıldırım (2002). She indicated that students preferred connecting course web site on campus because of economical difficulties. Another finding was reliability of information on the web site. She concluded that students like to see the necessary information and announcements in the Web site on time, so that their trust to the site will remain.

In Bayram's (2002) study, it is found that the time spent within the online tutorial had not meaningful effect on students' achievements. He also found that online computer literacy tutorials may be effective for effective learning and also indicated that can be effective in terms of time and cost.

Hoşver (2002) stated that students did not preferred synchronous tools to communicate because of their status, full time worker. For the reason of computer literacy level of students, she suggested that online courses could require computer driving license from the students before taking an online course. So that they would encounter less or no problems in online learning environment like the case in her study.

In the study conducted by İnan (2003) to explore how students perceive online learning support system, students responded that keeping contact with the instructor online, upload possibility and revising easily was the advantages of the web site. Also they stated that including web site, accessibility, reading off the computer screen, facilitation, privacy, and up-to date information on the web site affected their usage of the web site. İnan (2003) indicated that because of the fact that opportunity to interact with each other and preferring face to face communication, students did not used web site for communication purposes.

Another study conducted by Ersoy (2003) supports İnan (2003) findings. He conducted a research study to investigate the perceptions of students blended course where web based instruction, collaborative learning environment and online instructor were analyzed. According to Ersoy (2003) the reasons of students' low participation scores and their neutral perceptions of computer mediated communication indicated that students did not preferred using online communication tools because they had a chance to communicate face-to face

environment. He also indicated that students found mediated communication not motivating but they found group work motivating.

2.8.1 Gender

Research studies in the literature were focused on different aspects of online learning and their relationship with student characteristics such as gender, age, computer skills. The following section will present gender related studies in the online learning literature.

While no difference was found in terms of gender in some of the studies, limited of them was found gender differences in students' perceptions. In The National Centre for Vocational Education Research's study, Choy, McNickle & Clayton (2002) analyzed technical support responses and investigated their changes with student characteristics such as age, gender or employed status. In their study, no significant difference in terms of student characteristics was found in students' technical support responses.

Also Chiu (2002) found that there was no significant difference satisfaction and achievement of students in terms of gender. Similarly, in Hong (2002)'s study, study about the effect of students' and instructional variables on satisfaction and achievement in a graduate level web based course, no difference in course satisfaction and learning achievement in terms of gender was found.

Koç (2002) explored students' perceptions about computer mediated communication environment, learner benefit, learner support, motivation and collaboration in a computer mediated communication environment. Though there was a mean difference in favor of females, no gender differences in their perceptions was found.

Huang (2002) conducted a research study to explore the possible relationships between students' perceptions and demographics. In his study, he examined students' perceptions in terms of demographics, course structure, interaction, interface, learner autonomy and their relations. No difference was found in terms of gender, even though significant different in terms of age and computer skills were found.

Koohang & Durante (2003) studied students' perceptions about Web based distance learning activities/assignments in terms of gender. The results support the studies in the literature. They found that males and females equally perceived that the Web-based distance learning activities/assignments portion of their hybrid program.

Ashmad (2001) studied the attitudes of Iranian undergraduates towards computers. Similarly, he found no significant difference in terms of gender in liking computers and usefulness of computers. However, he found significant gender differences in favor of females. Females showed stronger feelings about equal gender ability and competence in the use of computers, but expressed low confidence in their ability to work with computers. Blum's (1999) study supported Ashmad's study. It was found that females asked more technical questions than males (66.7% of all technical questions were posted by females). The content of the messages sent by females contained problems with the software used to connect to classrooms and technical problems with outside software used to find information on the World Wide Web.

In Arbaugh's (2000) study on participation in an MBA online course, it was found that there were moderately significant differences in class participation, between men and women. Males reported more difficulty interacting in the course, thus interaction difficulty was a significant predictor of class participation.

Also Shea, Fredericksen, Pickett, Pelz & Swan (2001) examined student perceptions and course design factors in asynchronous online learning network with 1,108 college students. They found that gender affected course satisfaction and perceived learning. They stated that girls were more likely than boys to be satisfied with the courses they took and to report higher levels of learning from them. Also girls reported significantly higher levels of satisfaction and perceived learning than did boys.

2.9 Summary

With the developments in web technologies, number of Higher Education Institutions that offer online programs or courses increases gradually. Knowing the concept of web based instruction and computer mediated communication and their potential are important in order to design effective web based learning environments.

Now, most of the studies focused on evaluation of the online learning environments and design issues. Also several studies were conducted to investigate web based learning effects on learning and teaching. Findings of such studies should directly affect design and development of online learning environments. Instructors and content developers should take into account the findings so that they would construct effective online learning environments.

Communication is an important concept in online learning. Tools used for interaction in computer mediated communication environments were studied by several researchers. Nevertheless, online learning environments that offer different interaction types (student-student, student-instructor, and content-student interactions) for different subject areas and participant groups should be investigated more so that interaction strategies for online learning environments would be developed.

CHAPTER 3

METHOD

This chapter presents the research questions, research design, population, data collection instruments, data analysis and assumptions.

3.1 Research Questions and Hypotheses

The purpose of the study is to understand the perceptions of the learners about web enhanced learning in terms of feelings about computers and the web, online course support, level of communication and satisfaction.

The research questions to be answered by this study are as follows:

Question 1 What are learners' feelings about computers?

Question 1.1 Is there a significant difference between males' and females' feelings about computers?

Question 2 What are learners' feelings about the web?

Question 2.1 Is there a significant difference between males' and females' feelings about the web?

Question 3 What are learners' perceptions of online course support in the web enhanced course?

Question 3.1 Is there a significant difference between males' and females' perceptions of online course support?

Question 4 What are learners' perceptions of level of communication in the web enhanced course?

Question 4.1 Is there a significant difference between males' and females' perceptions of level of communication?

Question 5 What are learners' perceptions of satisfaction in the web enhanced course?

Question 5.1 Is there a significant difference between males' and females' perceptions of satisfaction?

To test the research questions statistically the following null hypotheses were stated as temporary solutions to research questions:

Hypothesis 1 There is no significant difference between males' and females' feelings about computers in a web enhanced course.

Hypothesis 2 There is no significant difference between males' and females' feelings about web in a web enhanced course.

Hypothesis 3 There is no significant difference between males' and females' perceptions of online course support in a web enhanced course.

Hypothesis 4 There is no significant difference between males' and females' perceptions of level of communication in a web enhanced course.

Hypothesis 5 There is no significant difference between males' and females' perceptions of satisfaction in a web enhanced course.

3.2 Design of the Study

The purpose of the study is to identify perceptions of the learners about web enhanced course experience, and examine if there are perception differences in terms of gender. The design of the study is a descriptive study. Data related with students' perceptions of the web enhanced course are collected through survey.

3.3 Subjects of the Study

The sampling method used in this study was non-probability convenient sampling. The subjects of this study were 2nd year students, taking the CEIT 231 course at the 2002/2003 summer semester at Computer Education and Instructional Technology (CEIT), Middle East Technical University, Ankara, Turkey. There were forty-three (43) students, 18 female and 25 male, enrolled in the CEIT 231 course. Of 43 students, 40 of them, 17 female and 23 male filled out the survey. Two students did not fill the questionnaire and one student did not come to the lessons in data collection period. Majority of the students were 2nd year CEIT students taking the course as a must course in the program. Four of the students were from Elementary Science Education department and one student from Electrical Engineering department. Those students took the course as technical elective.

Table 3.1: Distribution of the subjects of the study

Gender	Frequency	Percentage
Males	23	0.54
Females	17	0.40
Total	40	0.94

3.4 Description of the CEIT 231 Web Enhanced Course

The context of this research study is the CEIT 231 web enhanced course offered by Computer Education and Instructional Technology Department during 2002-2003 summer semester at Middle East Technical University, Ankara, Turkey. The course was designed and offered by Dr.Hasan Karaaslan. The purpose of the course is to provide fundamentals of (the theoretical framework, historical

development and practical applications) distance education to students. The objectives of the course are:

- Develop awareness of instructional technology in education
- Develop an understanding of the impact of educational technology, distance learning and the global impact of education
- Apply copyright regulations to distance learning
- Review current research and trends in distance learning
- Describe and evaluate current status and trends in distance learning
- Describe and evaluate pedagogical theories of distance learning
- Utilize systematic instructional design for distance learning
- Understand the roles of students, teachers, and administrators in distance learning
- Utilize current tools for distance learning
- Encounter the Internet and the WWW as delivery systems for distance learning
- Gain exposure to real life experiences in designing and planning distance learning courses including evaluation and assessments.
- Gain exposure to uses of and be able to evaluate software for educational application.
- Demonstrate the ability to integrate multimedia computer applications into specific content areas in a distance learning environment.

The course is offered web enhanced. Two-hour face to face and three-hours online lessons were given each week. During face to face lessons traditional classroom instruction was used. The instructor used lecture and recitation methods supported with PowerPoint presentations. Online lessons were composed of chat sessions, forum and course web site. Each week a new topic related with the face to face lessons were discussed in chat sessions. Also forums were used for discussion. Students were expected to post at least 3 meaningful

course related messages to the forum each week. It was expected to form their own project group through forum and to discuss group works through forum. In the web site of the course, detailed guideline and resources (course syllabus, detailed guideline and resources four each week's topic, schedule of the course, assignments, directions for the course, links to collaborative communication tools (forum and chat) were presented. Screenshots of the course web site is presented in APPENDIX B.

The topic of the week, link of the additional resources and online version of PowerPoint presentations were imported to course web site each week. Addition to this, students should study the subjects of the week online before the online or face to face lessons. Also students were expected to participate in chat sessions and forum each week.

3.4.1 Evaluation and Grading

The assessment of the students' achievement in this course had done based on five criteria, midterm exams, final exam, paper projects, attendance/participation to forum, attendance/participation to chat, mini personal projects, as shown in Table 3.2. Midterm and final exam was distributed on paper (35%). Papers and projects were 35% of the total grade measurement. The last measurement was about the participation of the students into chat and forum (20%).

Table 3.2: Evaluation and grading formula of the course

	Percentage
Midterm(s)	% 15
Final	% 20
Paper(s)/Project(s)	% 30
Attendance/Participation to forum	% 10
Attendance/Participation to chat	% 10
Mini-Personal-Projects	% 5
Total	100

3.5 Data Collection Instruments

To obtain relevant data for this study, Students' Perceptions of Web Enhanced Survey (See APPENDIX A) was used. The instrument used in this study was English and it was not translated to Turkish because of the sample characteristics. Study sample were students of Middle East Technical University where the lessons are in English. So it is assumed that they can understand the questions without having any problems.

3.5.1 Students' Perceptions of Web Enhanced Course Survey

Students' Perceptions of Web Based Courses Survey was used for identifying students' perceptions and feelings about web enhanced course. Students' Perceptions of Web Based Courses Survey was originally developed by Dr. Roxanne Hiltz (1994). It was used for evaluating the effectiveness of the Virtual Classroom in the late 1980's. The items were updated to reflect the use of the web and new teaching/learning activities that are used in many web based or web supported courses by Marsha Kennedy Ham (2002). The detailed information about each subscale is given as follows:

Table 3.3: Reliability results of Subscales

Subscale	Number of items	Item numbers	Original Alpha	Alpha of the study
Students' Feelings about Computers	8	Q01-Q08	.83	.85
Students' Feelings about the web	8	Q09-Q16	.81	.76
Online Course Support	6	Q22-Q27		.50
Level of Communication	8	Q28-Q36	.78	.71
Satisfaction	14	Q37-Q50	.89	.73

3.5.1.1 Students' Feelings about Computers and the Web Subscale

In this study, Students' Feelings about Computers and the Web Subscale was used for the purpose of investigating students' feelings about computers and the web differences in term of gender. Students' Feelings about Computers and the Web subscale, which is composed of 18 questions, was adapted from Computer Attitude scale by Ham (2002). First eight items are related with items in Students' Feelings about Computers and items 9-16 related with Students' Feelings about Web. Ham found the reliability coefficient for Attitude about Computer subscale to be Alpha of .83 and Attitude about Web subscale to be ά=.81. In this study, it was found to be ά=.85 for the Computer subscale and to be ά= .76 for the Web subscale.

3.5.1.2 Online Course Support Subscale

In order to identify students' perception about level of online course support in web enhanced course, online course support subscale was used. Original online course support subscale, developed by Ham (2002), consisted of 6 items. The reliability coefficient of the scale in this study is ά=.50. When it is compared to other subscales used in this study, reliability of this subscale is relatively low. However it may be due the number of questions (6) in the scale.

3.5.1.3 Level of Communication Subscale

In order to investigate perceptions differences in level of communication, subscale of level of communication was used. The scale was consisted of 9 items and items were rated on a Likert-type scale 1 equaling strongly disagree and 5 equaling strongly agree for positively worded statements. Ham (2002) conducted reliability analysis for 9 items resulting overall Alpha of .78. In this study, reliability analysis of the scale revealed an Alpha of .71.

3.5.1.4 Students Satisfaction with their Course Experience Sub-Scale

The purpose of this subscale was to investigate students' satisfaction levels with their web enhanced learning experiences. The subscale was consisted of 14 items and items were rated on a Likert-type scale 1 equaling strongly disagree and 5 equaling strongly agree for positively worded statements. Ham (2002) found the reliability coefficient for Students Satisfaction with their Course Experience Scale to be ά=.89. It was found for this study to be ά=.73 that displayed %73 of the variance of the total satisfaction scores was reliable and measurement error of the scale was %27.

3.6 Procedure of the Study

This study investigates perceptions of participants of a web enhanced course given at METU in Ankara, Turkey during 2002/2003 summer semester. Prior the beginning of the 2002/2003 summer semester, the researcher came together with the courses instructor and described the importance of this study and the data collection procedures. Upon receiving approval from the instructor, the researcher and instructor agreed on a survey schedule for this study. Summer semester in Middle East Technical University lasts 6 weeks and last week of this period was defined as final examination week. The data collection was performed 4 weeks after the beginning of the summer semester and before the last week of the lessons. This allowed time for the students to develop a clear perception of their experience and allowed time for the researcher to gather data of the sample with maximum answer rate. The survey was distributed to the students at the beginning of the second hour of the face to face lesson by the researcher. The students answered the survey questions in about 15 minutes. There were 43 registered students in the course. First week out of 33, 31 students returned the survey. Second week, out of 10, 9 students returned the survey. Overall from 43 registered students, 40 of them answered the questionnaire.

3.7 Data Analysis

The data gathered through the survey was analyzed using the SPSS for Windows (Release 11.5) software. Reverse items coded and reversed by using SPSS. Subscales were analyzed and presented using descriptive statistics such as frequency, mean, standard deviation, percentages. The mean scores were calculated for subscales. The students' comments about best and least things they like about this course were analyzed and grouped and presented. To compare males and females means inferencial statistics, t-test, was used.

3.8 Assumptions of the Study

The following assumptions will be recognized in this study

- The participants would respond the questionnaires accurately,
- The subjects' comprehension of English was sufficient for responding in questionnaires.

3.9 Limitations of the Study

The following limitations were recognized in defining the nature and scope of this study.

- All of the students participated in this study were enrolled in Middle East Technical University. Thus, generalizations of the findings to other populations or settings lacked certainty.
- The results were also limited to the perceptions of that particular sample and would be different for another Web enhanced course designed by another instructor.

- Participants in this study were limited to 40 of the 43 students who enrolled in the Distance Education course offered by Middle East Technical University during summer 2002/2003
- Duration of the experience in regard to web enhanced course was limited to four weeks.

CHAPTER 4

RESULTS

This chapter presents participants' characteristics and results of the study. The results are presented in the order of each research question.

4.1 Demographic Data

Table 4.1 and 4.2 present participants' demographic data describing gender, online course experience before, total time spend for studying for the course, cumulative GPA, student living arrangements, computer ownership, place primarily access to the course, high school type. A total of 40 subjects responded to the survey. The sample consists of 42,5% of female respondents (N=17) and 57,5% male respondents (N=23). The largest percentage (%57,5) of the participants has cumulative GPA of 2,01-3,00 (N=23). More than half of the participants (%57,5) have not taken online course before (N=23). 67,5% of the participants were graduated from technical or vocational high school. Table 4.1 represents the data related to gender, cumulative GPA, online course experience before and high school type the participants graduated from.

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

Variable	Frequency	Percentage
Gender		
Female	17	42,5
Male	23	57,5
Cumulative GPA		
Less than 2,00	3	7,5
2,01-3,00	23	57,5
3,01-4,00	14	35
Online Course Experience Before		
None	23	57,5
One	10	25
Two or more	7	17,5
High School Type		
General	4	10,0
Anatolian	6	15,0
Vocational	9	22,5
Technical	15	37,5
Science School	2	5,0
Anatolian Technical	2	5,0
Anatolian Vocational	1	2,5
Super Lycee	1	2,5

In addition total time spent in a week for studying the course, living arrangements, computer ownership and placement of the computer primarily used accessing to the course were obtained. These are summarized in Table 4.2. 77,5% of the participants has computers. The largest percentage (%47,5) of participants were living in campus dormitory and second large percentage (%30) living with their parents. The total time, which participants spent for studying for the course each week varied, with %57,5 spending 3 to 5 hours and %22,5 spending 1-2 hours. Responses to the question regarding access to the computers where participants primarily access to the course revealed that %37,5 (N=15) of the participants were primarily accessed from computer lab in dormitories and %20 of the participants were accessed from their home or apartment.

Table 4.2: Total Time Spent in a Week For Studying the Course, Living Arrangements, Computer Ownership and Placement of the Computer Primarily Used Accessing to the Course

Variable	Frequency	Percentage
Computer Ownership		
Yes	31	77,2
No	9	22,5
Living Arrangements		
Live with parents	12	30,0
Live in Campus Dormitory	19	47,5
Live off campus with roommates	7	17,5
Other	2	5,0
Total Time Spent in a Week For Studying The Course		
1-2 hour	9	22,5
3-5 hour	23	57,5
6-9 hour	5	12,5
10-12 hour	2	5
13 or more hours	1	2,5
Placement of the Computer Primarily Used Accessing to the Course		
Computer lab in the department	3	7,5
Computer lab in dormitories	15	37,5
In my room in dormitory	5	12,5
In my home/apartment	8	20,0
At work	1	2,5
Computer Lab in the department and in dormitories	3	7,5
Computer lab in dormitories and in my home	2	5,0
Computer lab in the department and in my home	1	2,5
Internet café	1	2,5
Computer lab in the department and in my room in dormitory	1	2,5

4.2 Participation in Learning Activities

In this part (Questions #17 and #18) students were asked about the type of learning activities as a part of the course and the types of learning activities as a part of grading. As it is seen in Table 4.3, Majority of the students declared that live online chat sessions (N=40), web based small group collaborative projects (N=35) and bulletin board (N=28) were part of the course activities. Addition to

this, they stated that in similar proportions these activities were part of their grade. Students (N=29) reported that web based reading assignments were part of the course but not part of their grade (N=9).

Table 4.3: Participation in learning activities

Q17: Part of the course	Frequency	Q18: Part of your grade	Frequency
Live online chat sessions	40	Live online chat sessions	39
Web based small group collaborative projects	35	Web based small group collaborative projects	35
Bulletin board /conference discussions	32	Bulletin board/conference discussions	25
Student developed list as supplementary websites	15	Student developed list as supplementary websites	13
Student home pages	5	Student home pages	3
Web based reading assignments	29	Web based reading assignments	9
None of the above		None of the above	
		Attendance	1
		Classic exams	2

4.3 Students' Perceptions of Web Enhanced Course

4.3.1 Students' Feelings about Computers (Research Question 1)

Participants completed the first part of the survey that include 8 questions. The respondents on a scale of 1 to 5 rated each question. From the pairs they responded the closest choice to their feelings about computers. For this subscale mean score was found to be M=3,56. It means that the students' feelings about computers is not negative but to some extent positive. The lowest mean score for this scale was 3,23, for items #3 and #4, which stands for neutral. The highest mean score was 4,20 related with item #5, indicate that majority of the students found computers helpful. Table 4.4 represents the means and percentages of responses to each item.

Table 4.4: Students' feelings about computers

Item	SA %	A %	N %	D %	SD %	Mean	Std.D
Q01: Stimulating – Dull*	17,5	30,0	27,5	17,5	7,5	3,33	1,185
Q02: Fun – Dreary*	27,5	32,5	12,5	20,0	7,5	3,53	1,301
Q03: Easy – Difficult*	10,0	27,5	35,0	25,0		3,23	0,959
Q04: Personal – Impersonal*	7,5	3,5	3,5	17,5	5,0	3,23	1,000
Q05: Hindering - Helpful	35,0	55,0	5,0	5,0		4,20	0,758
Q06:Threatening-Unthreatening	40,0	42,0	10,0	7,5		4,15	0,893
Q07: Efficient – Inefficient*	25,0	40,0	4,5	12,5	12,5	3,54	1,354
Q08: Reliable- Unreliable*	15,0	42,5	25,0	17,5		3,55	0,959
Sub Scale Mean Score						3,56	

*: Reverse items

Some abbreviations are used in all tables explained above.

Explanation: SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree, SD=Strongly Disagree, Std.D=Standard Deviation.

To test the hypothesis related with research question 1.1 males and females mean scores were compared through an independent sample t-test. As shown in Table 4.5, there is no significant difference between female (M=3,45) and male (M=3,63) students about their feelings about computers. The significance is p=0,474 at 95% confidence interval.

Table 4.5: T-test results for students' feelings about computers in terms of gender

Feelings about computers	N	Mean	SD	t value	df	2-tail prob.
Female	15	3,4500	0,497	-0,723	36	0,474
Male	23	3,6304	0,876			

Table 4.6: Students' feelings about computers in terms of gender

Item		SA %	A %	N %	D %	SD %	Mean	Std.D
Q01	Males	26,1	34,8		26,1	13,0	3,35	1,465
	Females	5,9	23,5	64,7	5,9		3,29	0,686
Q02	Males	39,1	26,1	4,3	17,4	13,0	3,61	1,500
	Females	11,8	41,2	23,5	23,5		3,41	1,004
Q03	Males	8,7	30,4	43,5	17,4		3,30	0,876
	Females	11,8	23,5	23,5	35,3		3,12	1,008
Q04	Males	8,7	30,4	39,1	17,4	4,3	3,22	0,998
	Females	5,9	41,2	29,4	17,6	5,9	3,24	1,033
Q05	Males	43,5	43,5	4,3	8,7		4,22	0,902
	Females	23,5	70,6	5,9			4,18	0,529
Q06	Males	43,5	34,8	13,0	8,7		4,13	0,968
	Females	35,3	52,9	5,9	5,9		4,18	0,809
Q07	Males	39,1	30,4	4,3	8,7	17,4	3,65	1,526
	Females	5,9	52,9	11,8	17,6	5,9	3,38	1,088
Q08	Males	17,4	39,1	26,1	17,4		3,57	0,992
	Females	11,8	47,1	23,5	17,6		3,53	0,943

4.3.2 Students' Feelings about the Web (Research Question 2)

To get information about the participants' feelings about the web they were asked 8 questions (Q9 to Q16). The mean score was found almost same with the feelings about computers. As it is shown in Table 4.7 students' feelings about the web found to be M=3,53. This result shows that majority of the students' feelings about the web were positive. For this subscale the lowest mean score was 3, which strands for neutral, for item #12, and the highest mean score was 4.22 for the item #14.

Table 4.7: Feelings about the web

Item	SA %	A %	N %	D %	SD %	Mean	Std.D
Q9: Stimulating – Dull*	17,5	30,0	22,5	20,0	10,0	3,25	1,256
Q10: Fun – Dreary*	27,5	32,5	12,5	17,5	10,0	3,50	1,340
Q11: Easy – Difficult*	27,5	35,0	17,5	7,5	12,5	3,58	1,318
Q12: Personal – Impersonal*	15,0	25,0	20,0	25,0	15,0	3,00	1,320
Q13: Hindering - Helpful	22,5	55,0	20,0		2,5	3,95	0,815
Q14:Threatening-Unthreatening	50,0	30,0	15,0	2,5	2,5	4,22	0,974
Q15: Efficient – Inefficient*	25,0	40,0	10,0	20,0	5,0	3,60	1,215
Q16: Reliable- Unreliable*	10,0	20,0	45,0	22,5	2,5	3,13	0,966
Sub Scale Mean Score						3,52	

*: Reverse items

To test the hypothesis 2 related with gender differences in feelings about the web, males' and females mean scores were compared through independent sample t-test. Even though there is a mean difference in favor of males, as it is shown in Table 4.8 t-test results show that there is no significant mean difference ($p>0,5$) between males ($M=3,57$) and females ($M=3,47$) in regard to feeling about the web.

Table 4.8: T-test results for students' feelings about the web in terms of gender

Feelings about the web	N	Mean	SD	t value	Df	2-tail prob.
Female	17	3,4706	0,646	-0,437	38	0,664
Male	23	3,5707	0,762			

Table 4.9: Students' feelings about the web in terms of gender

Item		SA %	A %	N %	D %	SD %	Mean	Std.D
Q09	Males	21,7	30,4	21,7	21,7	4,3	3,43	1,199
	Females	11,8	29,4	23,5	17,6	17,6	3,00	1,323
Q10	Males	30,4	34,8	8,7	17,4	8,7	3,61	1,340
	Females	23,5	29,4	17,6	17,6	11,8	3,35	1,357
Q11	Males	21,7	43,5	13,0	13,0	8,7	3,57	1,237
	Females	35,3	23,5	23,5		17,6	3,59	1,450
Q12	Males	17,4	30,4	8,7	21,7	21,7	3,00	1,477
	Females	11,8	17,6	35,3	29,4	5,9	3,00	1,118
Q13	Males	13,0	60,9	26,1			3,87	0,626
	Females	35,3	47,1	11,8		5,9	4,06	1,029
Q14	Males	43,5	34,8	17,4	4,3		4,17	0,887
	Females	58,8	23,5	11,8		5,9	4,29	1,105
Q15	Males	21,7	43,5	8,7	21,7	4,3	3,57	1,119
	Females	29,4	35,3	11,8	17,6	5,9	3,65	1,272
Q16	Males	13,0	26,1	43,5	17,4		3,35	0,935
	Females	5,9	11,8	47,1	29,4	5,9	2,82	0,951

4.3.3 Students' Perceptions of Online Course Support in the Web Enhanced Course (Research Question 3)

There were 9 questions (on #19 to #27), which addressed the support they received from the instructor, in this part. First three questions were multiple-choice type and the remaining 6 were 5-likert type scale. Table 4.8 and Table 4.10 present the frequencies of the responses. Results of the first three questions show that students' perceptions of support provided in the web enhanced course was positive. The details of the responses are shown in Table 4.8.

In the 19th question, rapidity of the instructor's responses to the e-mail questions was asked. 57,5% of the students answered that they receive an answer in less than a day. 35% of the students indicated that they did not asked questions by e-mail.

In the 20th question, the students were asked whether they receive individual assistance from the courses instructor when they needed it. 85% of the students

received assistance from the instructor when they needed it, only 12,5% of the students' responded negatively (N=5) to this question and also one student did not answer this question.

In the 21st question, the students were asked the source of assistance/support they seek with their web enhanced course. 72,5% of the students responded that they sought technical assistance from course instructor, % 32,5 of the students from another student and 10% of the students (N=4) from Internet Service Provider (ISP) item positively. Only 17,5% of the students (N=7) responded that they did not seek technical assistance.

The responses to the 19th, 20th and 21st questions indicate that majority of the students seek technical assistance or support from the course instructor and in general they receive individual assistance from the course instructor when they needed it within less than a day. Table 4.8 represents the frequencies and percentages of responses to the questions.

Table 4.10: Online course support - Part 1

Variable	Frequency	Percentage
Q19: Instructor's question response speed		
Four hours	5	12,5
Less than a day (5-24 hours)	18	45,0
Two days	6	15,0
A week or more	1	2,5
I did not ask questions by e-mail	10	25,0
Q20: Individual assistance from the instructor		
Yes	34	85,5
No	5	12,5
Missing	1	2,5
Q21: Technical Assistance sought from		
Internet Service Provider (ISP)	4	10,0
Another Student	13	32,5
Course Instructor	29	72,5
Did not deed help	7	17,5

The second part of the support subscale was related with access to the course materials and support provided in this respect. Items from Q #22 to #27 are related with this part. As it is shown in Table 4.11, overall mean for this subscale is 3.6 indicating that majority of the students agree with the statements. For this subscale the highest mean score was 4,45 for #23, indicating that students easily access the course materials using browsers. The lowest mean score was 2, 15, for #25, which is technical support from the instructor through telephone line is not available for students.

Table 4.11: Online course support - Part 2

Item	SA %	A %	N %	D %	SD %	NA %	Mean	Std.D
Q22*	22,5	12,5	7,5	30,0	25,0	2,5	3,15	1,610
Q23	55,0	40,0	2,5		2,5		4,45	0,783
Q24	32,5	62,5	5,0				4,28	0,554
Q25	10,0	25,0	10,0	12,5	10,0	32,5	2,15	1,861
Q26	27,5	60,0	7,5	5,0			4,10	0,744
Q27	22,5	52,5	2,5	7,5	2,5	12,5	3,48	1,601
Sub Scale Mean Score							3,60	

*: Reverse items

Q22- I need a lot of help to access course materials on the web: 55% of the students strongly agreed or agreed with the statement and 35 % were strongly disagreed or disagreed. The mean score for this item was M=3,15 which indicates that students need a little help to access course materials.

Q23- Accessing course information using a web browser such as Netscape or Internet Explorer easy to do: Ninety-five percent of the students strongly agreed or agreed with the statement with the mean score of M=4,45. Therefore, it is understood that students easily access to the course information using web browsers.

Q24- My instructor gave me through information so that I could successfully access course materials: Majority of the students (95%) strongly agreed or

agreed with the statement with the mean score of M=4,28. Thus, the students declared that instructors gave enough guidance for accessing course materials.

Q25- Online course support from the instructor through telephone line was available whenever I needed it: As indicated in Table 4.11, out of 40 students 27 students answered this question. 35% of the students agreed or strongly agreed with the statement, the 22,5% of them was disagree or strongly disagree. Student mean score is M=2,15.

Q26- I was able to access the course website whenever I needed: Students mean score was found to be M=4,10. Majority of the students (87,5%) agreed or strongly agreed with this statement. So it can be said that students could access the course website whenever they needed. This also shows that the website is purified from technical problems.

Q27- I was able to download from the Web any additional software applications (such as Acrobat Reader, Flash, Real Player, etc.) that I needed to complete course activities: The students mean score of this item is M=3,48. The results in Table 4.11 showed that 75% of the students agreed or strongly agreed with the statement. It can be said that computer literacy level of the students were appropriate for this web enhanced course.

To test the hypothesis related with the research question 3.1 males and females mean scores were compared through independent sample t-test. As it is shown in Table 4.12, there is no significant difference between male's (M=3,74) and female's (M=3,41) perceptions of support in web enhanced course hence the value p=0,142 which is greater than 0,05 within 95% confidence interval.

Table 4.12: T-test results for students' perceptions of online course support in terms of gender

Online course support	N	Mean	SD	t value	df	2-tail prob.
Female	17	3,4118	0,705	-1,501	38	0,142
Male	23	3,7391	0,664			

Table 4.13: Students' perceptions of online course support in terms of gender

Item		SA %	A %	N %	D %	SD %	NA %	Mean	Std.D
Q22	Males	21,7	34,8	4,3	17,4	21,7		3,17	1,527
	Females	29,4	23,5	11,8	5,9	23,5	5,9	3,12	1,764
Q23	Males	56,3	39,1	4,3				4,52	0,593
	Females	52,9	41,2	5,9				4,35	0,996
Q24	Males	26,1	65,2	8,7				4,17	0,576
	Females	41,2	58,8					4,41	0,507
Q25	Males	13,0	26,1	8,7	17,4	8,7	26,1	2,39	1,852
	Females	5,9	23,5	11,8	5,9	11,8	41,2	1,82	1,879
Q26	Males	26,1	60,9	13,0				4,13	0,626
	Females	29,4	58,8	11,8				4,06	0,899
Q27	Males	30,4	60,9		4,3		4,3	4,04	1,107
	Females	11,8	41,2	5,9	11,8	5,9	23,5	2,71	1,863

4.3.4 Students' Perceptions of Level of Communication in the Web Enhanced Course (Research Question 4)

Students were asked 9 questions (Q#28 to #36) to understand their perceptions of online communication. As it is presented in Table 4.14, overall mean for this subscale is 3.31 showing that participants' perceptions of online communication was neutral. The highest mean score for this subscale was 3,93 for item #33, which indicates that students like having e-mail connection with the instructor. The lowest mean score was 2,35, that students thought FAQ part did not help their learning.

Table 4.14: Level of communication

Item	SA	A	N	D	SD	NA	Mean	Std.D
	%	%	%	%	%	%		
Q28	12,5	40,0	20,0	22,5	5,0		3,33	1,118
Q29	2,5	42,5	25,0	17,5	5,0	7,5	2,98	1,271
Q30	7,5	40,0	27,5	20,0		5,0	3,20	1,159
Q31	7,5	55,0	12,5	20,0	5,0		3,40	1,057
Q32	12,5	60,0	15,0	12,5			3,73	0,847
Q33	35,0	40,0	15,0	5,0	2,5	2,5	3,93	1,163
Q34	22,5	57,5	12,5	2,5	2,5	2,5	3,88	1,042
Q35	10,0	47,5	20,0	2,5		20.0	3,05	1,663
Q36	2,5	40,0	17,5	5,0		35,0	2,35	1,833
Sub Scale Mean Score							3,49	

Q28-Using online discussion made me communicate more with my fellow students: As shown in Table 4.12, 52,5% (M=3,33) of the students strongly agreed or agreed, 20% of them were neutral about online discussions made them communicate with fellow students. Therefore, it can be concluded that while online discussions did not help all of them to communicate more with fellow students, some of them communicate more using online discussions.

Q29-The bulletin board made a positive contribution to my learning: In the Table 4.12, the students mean score for the second question is M=2,98. The results showed that 45% of the students agreed or strongly agreed with the statement while 42,5% of the students disagreed or strongly disagreed with the statement. Mean score and the responses showed that bulletin board have neither positive nor negative contribution to their learning.

Q30- The web conference discussions made a positive contribution to my learning: Although this item is not applicable for the web enhanced course. Only 5% of the students answered as not applicable. It could be assumed that when they see discussion they stated their feeling about online discussions. Addition to this, for online discussions students perceive that online discussions made a slightly positive contribution to their learning.

Q31- The use of chat room helped me to learn the course materials: As shown in Table 4.12, 62,5% of the students declared that the use of chat room helped them to learn course materials. So it can be said that use of chat room is generally helped students to learn course materials.

Q32- There were sufficient opportunities to interact online with classmates: In the Table 4.12, the student mean score for this item is M=3,73. The results showed that 72,5% of the students agreed or strongly agreed with sufficient opportunities to interact online with classmates were available. This shows that most of the students find the opportunities to interact with the classmates sufficient.

Q33- I like having email connection with my instructor: As indicated in Table 4.12, the students mean score for this item is M=3,93, which is the highest mean score in the subscale. The results showed that 75% of the students agreed or strongly agreed with the statement. It can be concluded that majority of the students like having email connection with the instructor.

Q34- Having e-mail provided timely access to my instructor: As it is shown in Table 4.12, 80% of the students agreed or strongly agreed with the statement. The mean score for the item is M=3,88. It can be concluded that students generally used email to communicate and with the instructor.

Q35- Computer conferencing gave me timely feedback from my instructor: In spite of not applicability of the item, 57,5% of the students agreed or strongly agreed with the statement. Only 20% of them answered as not applicable.

Q36- The posting of Frequently-Asked-Questions (FAQ's) on the website helped me to move forward with my online studies: Because there is no frequently asked question on the website, 35% of the students answered as not applicable to the statement. However 47,5% of them agreed or strongly agreed with the statement.

To test the hypothesis 4 related with gender differences in level of communication, males' and females' mean scores were compared through independent sample t-test. According to Table 4.15, even though there is mean difference in favor of female students, t-test results show that there is no

significant mean difference between males (M=3,16) and females (M=3,51) according to their perceptions of level of communication in web enhanced course.

Table 4.15: T-test results for students' perceptions of level of communication in terms of gender

Level of Communication	N	Mean	SD	t value	df	2-tail prob.
Female	17	3,5098	0,780	1,559	38	0,127
Male	23	3,1691	0,603			

Table 4.16: Students' perceptions of level of communication in terms of gender

Item		SA %	A %	N %	D %	SD %	NA %	Mean	Std.D
Q28	Males	8,7	34,8	26,1	26,1	4,3		3,17	1,072
	Females	17,6	47,1	11,8	17,6	5,9		3,53	1,179
Q29	Males		47,8	13,0	26,1	8,7	4,3	2,91	1,240
	Females	5,9	35,3	41,2	5,9		11,8	3,06	1,345
Q30	Males		43,5	26,1	30,4			3,13	0,869
	Females	17,6	35,3	29,4	5,9		11,8	3,29	1,490
Q31	Males	4,3	43,5	13,0	30,4	8,7		3,04	1,147
	Females	11,8	70,6	11,8	5,9			3,88	0,697
Q32	Males	13,0	56,5	13,0	17,4			3,65	0,935
	Females	11,8	64,7	17,6	5,9			3,82	0,728
Q33	Males	17,4	47,8	17,4	8,7	4,3	4,3	3,52	1,275
	Females	58,8	29,4	11,8				4,47	0,717
Q34	Males	13,0	52,2	21,7	4,3	4,3	4,3	3,52	1,201
	Females	35,3	64,7					4,35	0,493
Q35	Males	4,3	52,2	26,1	4,3		13,0	3,17	1,403
	Females	17,6	41,2	11,8			29,4	2,88	1,996
Q36	Males		39,1	21,7	8,7		30,4	2,39	1,725
	Females	5,9	41,2	11,8			41,2	2,29	2,024

4.3.5 Students' Perceptions of Satisfaction in the Web Enhanced Course (Research Question 5)

In order to answer the research question about students' perceptions of satisfaction in the web enhanced course, the students were asked 14 questions.

As shown in the Table 4.17, overall mean for this subscale is 3,25, which stands for neutral. For this subscale the lowest mean score was 2,75, which stands for neutral for item # 41.and the highest mean score was 3,58 for the item #50.

Table 4.17: Students' Perceptions of Satisfaction

Item	SA	A	N	D	SD	NA	Mean	Std.D
	%	%	%	%	%	%		
Q37	7,5	52,5	17,5	17,5	5,0		3,40	1,033
Q38*	15,0	42,5	12,5	25,0	5,0		3,38	1,170
Q39*		15,0	30,0	50,0	2,5	2,5	2,53	0,877
Q40*	22,5	22,5	27,5	17,5	7,5	2,5	3,28	1,339
Q41	5,0	20,0	30,0	35,0	10,0		2,75	1,056
Q42	5,0	57,5	22,5	12,5	2,5		3,50	0,877
Q43*	27,5	32,5	15,0	12,5	12,5		3,50	1,359
Q44*	7,5	42,5	22,5	20,0	5,0	2,5	3,20	1,159
Q45	7,5	55,0	22,5	12,5		2,5	3,50	0,987
Q46*	12,5	25,0	32,5	25,0	2,5	2,5	3,13	1,159
Q47	2,5	65,0	15,0	10,0	5,0	2,5	3,43	1,059
Q48	2,5	32,5	32,5	25,0	7,5		2,98	1,000
Q49	2,5	52,5	20,0	25,0			3,33	0,888
Q50	7,5	52,5	32,5	5,0	2,5		3,58	0,813
Sub Scale Mean Score							3,25	

*Reverse items

Q37- Taking a web-based course is more convenient: The students mean score was found to be M=3,40 for this item. The results in Table 4.17 showed that 60% of the students strongly agreed or agreed with the statement and 17,5% of them were neutral about the statement. It can be claimed that more than half of the students find taking web enhanced course convenient.

Q38- Taking a web-based course is boring: As shown in Table 4.17, 67,5% of the students declared that they did not find taking web-based course boring (negative statement). Students who find boring (M=3,38) taking a web enhanced course were less than students who find not boring. It can be stated as more than half of the class did not find taking web enhanced course boring.

Q39- When I became very busy with other things, I was more likely to stop: The mean score for this item is 2,53. The results showed that half of the students disagreed or strongly disagreed with the item. Additions to this 30% of them were neutral about the statement. So it can be said that half of the class were likely to stop when they became very busy with other things.

Q40- I would not take another Web-based course: As indicated in Table 4.17, 45% of the students would like to take another web enhanced course. Again we see a big portion (27,5%) of neutral idea for this item. This indecisive population shows that they are not sure the effectiveness of the web enhanced course.

Q41- I found the online course a better learning experience than face-to face: As it is shown Table 4.17, the students' mean score for this item is M=2,75, which is the lowest mean score in the subscale. 45% of the students strongly disagreed or disagreed with the statement and 30% of them were neutral about the statement. This can be claimed that most of the students do not find online course a better learning experience than face to face .

Q42- I gained skills that are useful in my actual or chosen profession: As indicated Table 4.17, the student mean score is M=3,50. The results showed that 62,5% of the students strongly agreed or agreed with the statement. Again considerable portion (22,5%) of neutral idea exists for this item. So more than half of the students were declared that they gained skills that are useful their actual or chosen profession.

Q43- I spent too much time trying to log onto the course web site: 60% of the students declared that they did not spent too much time trying to log onto the course web site and 15% of them neutral about the statement. This shows that they did not have serious technical problems with the course website. This supports the online course support subscale items' responses.

Q44- I spent too much time surfing on the Web instead of studying: As shown in Table 4.17, half of the class stated that they did not spent too much time surfing on the web instead of studying. Again considerable portion (22,5%) of neutral idea exists for this item. Hence, it is possible to say organization of the lesson structures were well organized to unable students got lost in the course web site.

Q45- I would recommend taking web-based courses to friends or associates: The mean score for this item is M=3,50. The results showed that 62,5% of the students would recommend taking web-based courses to friends or associates. Although, only 45% of the students declared that they would like to take a web enhanced course again in item 4, Much more than that percentage (62,5%) of them recommend taking web-based courses.

Q46- I found learning online to be frustrating: 37,5% of the students did not find learning online frustrating and 27,5% of them declared opposite idea for this item. Addition to this a big portion (32,5%) of students was neutral. The results indicate that students did not have a consensus on the statement and were neutral about it.

Q47- This course contributed to my educational or personal development: In the Table 4.18, the student mean score for this item is M=3,43. 67,5% of the students strongly agreed or agreed with the item. The results of this item support the item 6. Addition to this the results are similar with each other.

Q48- This was one of the best courses I have taken: 37,5% of the students strongly agreed or agreed with the statement with the mean score of M=2,98. From this item's result, it can be concluded that although a great deal of the students thought that this was not one of the best courses they have taken, at least the same portion of others thought the opposite.

Q49- The pace of the course was just about right for me: As indicated in Table 4.18, the results show that more than half of the class is satisfied with the pace of the course with the mean score of M=3,33.

Q50- Overall I was very satisfied with this web-based learning experience: The students' mean score of this item is M=3,58, which is the highest mean score in the subscale. The results showed that 60% of the students agreed or strongly agreed with the item. Addition to this a considerable portion (32,5%) was neutral about the statement. Although, results of the satisfaction subscale items did not give high mean scores, majority of the students declared that they were satisfied with this experience.

Research Question 5.1: Is there a significant difference between males and females perceptions of satisfaction?

Hypothesis 5: There is no significant difference between males' and females' perceptions of satisfaction in a web enhanced course.

To test the hypothesis 5 related with gender differences in perception of satisfaction, males' and females' mean scores were compared though independent sample t-test. As shown in Table 4.18, there is no significant mean difference (p>0,05) between females (M=3,20) and males (M=3,28) in their perceptions' of satisfaction with the web enhanced course.

Table 4.18: T-test results for students' perception of satisfaction in terms of gender

Satisfaction	N	Mean	SD	t value	df	2-tail prob.
Female	17	3,2059	0,465	-0,437	38	0,665
Male	23	3,2764	0,532			

Table 4.19: Students' perceptions of satisfaction in terms of gender

Item		SA %	A %	N %	D %	SD %	NA %	Mean	Std.D
Q37	Males		52,2	17,4	21,7	8,7		3,13	1,058
	Females	17,6	52,9	17,6	11,8			3,76	0,903
Q38	Males	13,0	52,2	4,3	30,4			3,48	1,082
	Females	17,6	29,4	23,5	17,6	11,8		3,24	1,300
Q39	Males		13,0	30,4	52,2		4,3	2,48	0,898
	Females		17,6	29,4	47,1	5,9		2,50	0,870
Q40	Males	26,1	30,4	21,7	13,0	4,3	4,3	3,48	1,377
	Females	17,6	11,8	35,3	23,5			3,00	1,275
Q41	Males	4,3	13,0	30,4	39,1	13,0		2,57	1,037
	Females	5,9	29,4	29,4	29,4	5,9		3,00	1,061
Q42	Males	1,3	60,9	21,7	8,7	4,3		3,52	0,898
	Females	5,9	52,9	23,5	17,6			3,47	1,061
Q43	Males	34,8	30,4	21,7	8,7	4,3		3,83	1,154
	Females	17,6	35,3	5,9	17,6	23,5		3,06	0,874
Q44	Males	13,0	47,8	21,7	8,7	8,7		3,48	1,123
	Females		35,3	23,5	35,3		5,9	2,82	1,519
Q45	Males	8,7	56,5	17,4	17,4			3,57	0,896
	Females	5,9	52,9	29,4	5,9		5,9	3,41	1,131
Q46	Males	4,3	26,1	43,5	26,1			3,09	0,848
	Females	23,5	23,5	17,6	23,5	5,9	5,9	3,18	1,510
Q47	Males	1,3	65,2	13,0	8,7	8,7		3,48	1,039
	Females		64,7	17,6	11,8		5,9	3,35	1,115
Q48	Males	4,3	30,4	21,7	30,4	13,0		2,83	1,154
	Females		35,3	47,1	17,6			3,18	0,728
Q49	Males	4,3	52,2	8,7	34,8			3,26	1,010
	Females		52,9	35,3	11,8			3,41	0,712
Q50	Males	13,0	52,2	30,4		4,3		3,70	0,876
	Females		52,9	35,3	11,8			3,41	0,712

4.3.6 Students' Comments about the Course

In comment part, best and worst things about the course were asked. The students' comments on best things about the course are provided in Table 4.20 and comments on worst things about the course are provided in Table 4.21

Table 4.20: Students comments about the course (Best Things)

Q51: Best things about the course	Frequencies 1.	2.	3.	Total
Forum	7	5	1	13
Chat	16	2	1	19
Free time and being free	4			4
Place independence	3	3		6
Web site		2		2
Other learning Activities (assignments, homework, questioning, projects)	1	2	3	6

Students stated that they the best things they like collaborative learning activities of the course namely: forum (frequency=13) and chat (frequency=19). Free time, place independence, web site and learning activities such as assignments, homework and projects were general comments defined as best thing in the course.

Beside these, one student stated that course is more enjoyable than face to face, another wrote that the course is different and has a relax environment. Also one of them replied as course includes interesting subjects.

Table 4.21: Students comments about the course (Worst Things)

Q52: Worst things about the course	Frequencies 1.	2.	3.	Total
Forum	2			2
Chat	6	1	2	9
Poor communication in chat	3	1		4
Internet access problems	3	2		5
Technical Problems	2			2

Students wrote fewer comments about worst things in the course. Most frequent response was chat. Some of the students also stated that technical problems and Internet access problems as worst things they encountered in the course.

There is an interesting comment about the course in worst part. One student stated, “Chat is not a educational tool. Using chat takes too much time. You can do 3 times study or communication in class in chat room”. Another student’s comment was, “I could not write quickly enough and the course boring.”

CHAPTER 5

CONCLUSIONS

This chapter presents a summary of results, discussions, draws implications for practice, and suggests recommendations for further studies.

5.1 Discussion

The purpose of this study was to increase our understanding of the experiences of university students in distance-delivered courses and to identify learners' perceptions about level of communication, online course support, satisfaction, feelings about computers and the web and their relationship with gender. 40 students who have been taking CEIT 231 "Foundations of Distance Education" course were the participants of this study. The survey was distributed to students last 2 weeks of the lessons.

5.1.1 Students' Perceptions of Web Enhanced Course

5.1.2 Feelings About Computers and the Web

Students' feelings about computers and the web were questioned by subscale. The results showed that students' feelings about computers were not negative but to some extent positive. Also the mean score for students' feelings about the web was found to be almost the same with the mean score for feelings about computers. The mean difference between these two feelings was 0,03, in favor of feelings about the web.

Majority of the students were Computer Education and Instructional Technology Department of METU students, so that mean score for feeling about computers and the web were expected to be higher than the results occurred. This is an important result because they are neutral in feelings about computers and the web as potential computer literacy teachers. The findings may affect these potential teacher behaviors in the classroom. An explanation for this may be that %75 of the students graduated from vocational or technical high school and they use computers and the web as a tool for a long time so that feelings about computers and the web were not totally positive. This result may be due to their experience with computers and the web and they were aware of limitations of computers and the web.

Only three items' mean scores were higher than 4 for feelings about computer and web subscale. Most of the students agreed that computers are personal (M=4.20) and helpful (M=4.15), and the web is unthreatening (M=4.22). Differences in students' feelings about computers and the web in terms of gender were found to be no significant in this course.

Ashmad (2001) studied the attitudes of Iranian undergraduates towards computers. Similar to the findings of this study, he found no significant gender difference in terms of liking computers and usefulness of computers. However, he found significant gender differences in favor of females that they showed stronger feelings about equal gender ability and competence in the use of computers, but expressed low confidence in their ability to work with computers.

5.1.3 Online Course Support

The findings indicated that instructor, as a source of online course support was perceived positively in this course. Students considered the course instructor as the primary source of online course assistance so that majority of them took individual assistance from the instructor. Also students were pleased with the instructor's rapidity of answering the e-mail responses. They stated that they receive replies in less than a day but more than 5 hours to their e-mails.

Remember that, Vonderwell (2002) stated that immediacy of support and feedback from the instructor is an important factor that influences effectiveness of instruction.

However, the findings of 6-item subscale showed that students' perceptions of online course support are slightly positive. Students responded that they were able to access the course with their browsers easily whenever they needed. Further, instructor's guidance about the course web site was found as effective. However, students stated that they needed a little help to access course materials on the web. Also it was found that male students expressed they were able to download from the web any additional software applications, but females were neutral.

This finding is consistent with Blum's (1999) study suggesting that females have higher technical barriers. He conducted a study on gender differences in asynchronous environments. The data gathered from the content analysis of messages indicated that females asked more technical questions than males (66.7% of all technical questions were posted by females). The content of the messages sent by females contained problems with the software used to connect to classrooms and technical problems with outside software used to find information on the World Wide Web.

Another finding students stated was non-availability of online course support from the instructor through telephone line. This is because of the course schedule this course was opened in summer semester and the instructor only gave CEIT 231 course in the semester so he would be found in his office when needed. However telephone line was not the online medium defined to connect the instructor in this course, so this response should not directly affect the online course support results.

Online course support perceptions of students were slightly high; it may be due to the fact that face to face communication was available when they needed all the time. They probably asked their questions related to the online part during face to face sessions of the course. Another reason may be the students' backgrounds that majority of students (%67,5) were graduated from technical or

vocational high schools. There are studies in the literature indicating that when students have the opportunity to communicate face to face they do not prefer using computer mediated communication tools (İnan, 2003, Ersoy, 2003).

There was no significant difference in online course support responses of students in terms of gender in online course support. Similarly, Choy et al. (2002) found no gender differences in students' technical support responses. Also Koç (2002) stated that there was no difference between males and females students according to their thoughts about the support they perceived.

5.1.4 Level of Communication

The results of this subscale pointed that although using Computer Mediated Communication tools such as chat forum, directly affected the grade of the course, students were neutral about level of communication in the course. Even though their perceptions were neutral, they declared that the opportunities to interact with classmates were sufficient. The reason of this may be the students were students were not physically dispersed. They could interact or communicate with their peers in classroom or on campus.

However they responded positively that they liked having e-mail connection with the instructor and e-mail provided timely access to their instructor. Besides, students were positively responded to e-mail related questions in online course support part. This indicates that students liked using e-mail to communicate with the instructor and level of communication with this medium was appropriate for this course.

In comments section, students stated that the best things they liked about collaborative learning activities of the course were forum and chat. However, some students stated that the same collaborative activities were the worst part of this course. This means that some of the students like collaboration in the course but some of them did not. Some of the students liked learning activities such as assignments, projects, and questions. This indicates that majority of the students found not only chat and forum but also other learning activities interesting.

Shih et al. (1998) a conducted study where they found student learning styles, patterns of learning, and characteristics did not impact on Web-based learning achievement. They concluded that diverse students with different learning styles could benefit well from Web Based Instruction. They suggested that instructors should use variety of learning strategies. Also the researchers recommended teachers to encourage learners to use more communication techniques (e-mail, discussion, forum and chat) for more interactive learning in web based instruction.

In this study, communication in collaborative activities was defined as poor in the course. In spite of the fact that students like collaborative activities they might not-like the management and usage of the activities. According to Horton (2000), instructors should know the characteristics of online collaboration mechanisms so that they would use them effectively. He suggested using only e-mail and discussion groups at the beginning. After students mastered the simple ones, teachers encourage more advanced collaboration mechanisms. Another reason for this result could be the duration of the course. Four weeks of practice might not be enough for students to get used to the system.

In this study, one student's comment was, "I could not write quickly enough and the course [was] boring." As Horton (2000) indicated, typing skills of the students were important in chat. Also Palloff and Pratt (1999) emphasized that chat rarely lets meaningful discussions and stated that students who have good typing skills will contribute more, and will be the " loudest voice" in the class.

There is an interesting comment about the course in worst thing section. One student stated, "Chat is not an educational tool. Using chat takes too much time. You can do 3 times study or communication in class in chat room". In the study constructed by Driver (2002), students expressed that "the chat function seemed cumbersome to use and that they preferred face to face meetings if they had to meet at the same time at all"(p.39). Even though only one student wrote this statement, this type of students can benefit from other Computer Mediated Communication based activities.

Lastly, level of communication differences in terms of gender discussions was not present. Although female mean scores were higher than males in level of communication there was no significant difference between male and female students according to their thoughts about the level of communication in the web enhanced course. This might be due to the fact that females express themselves easily and in Computer Mediated Communication environments. Koç's (2002) findings support these results also. In this study, even though there was a mean difference in Computer Mediated Communication in favor of female, this difference was not significant.

5.1.5 Satisfaction

The result shows that the students did not have a consensus on satisfaction in the web enhanced course and they were neutral about it. We see a big portion of neutral responses in satisfaction part. Firstly, they thought that the gained skills were to some extent useful in their actual or chosen professions. This was an expected result because this is a must course of the department and also creates base for other courses related with distance education. 62.5% of the students stated that they would recommend taking web based courses to friends or associates. Also the same portion of students pointed that they were satisfied with this web-based learning experience. However, because of big neutral portions in the satisfaction results, this did not reflect the overall satisfaction mean score.

The reasons of such neutrality in perceptions of students may be stated as follows. Duration of the course might be short for students to decide on its effectiveness and fifth week of the course would be too early to obtain students' perceptions. In addition design of the course might have been affected students' perceptions in this category.

This neutral result in perceptions of students about satisfaction may be affected by perceptions of students in other issues such as feelings about computers and the web, online course support and level of communication. Rice et al. (2002) supported this idea and they found that delivery problems, lack of support and

students computer and web literacy levels were related with the level of satisfaction in online courses.

In this study, also it was found that there is no significant difference in satisfaction responses of students in terms of gender. This finding contradicts Shea et al.'s (2001) findings that girls were more likely than boys to be satisfied with the courses they took and also girls reported significantly higher levels of satisfaction and perceived learning than did boys.

5.2 Implications for Practice

On the basis of the results of the study general recommendations were made. However, the limitations of the study and used scales should be taken into account that. The following recommendations are provided:

- Participation in online learning activities should be taken into account in grading to encourage participation.
- The findings of the study indicated that students were liked to connect to teacher by e-mail and use e-mail for asking questions and technical assistance. It is recommended that instructors should give importance to student-teacher interaction by e-mail.
- Instructors and course designers should define strategies for management and usage of computer mediated communication tools and also for instructional design of the course.
- Not all the students like using forum and chat. So it is recommended that instructors and designers of the online courses should take into account different types of Computer Mediated Communication tools to enhance interaction and collaboration in web based learning environments, which would be suitable for different types of learners. So that they should offer different Computer Mediated Communication tools and activities for collaboration in online courses.

5.3 Implementation for Further Studies

Based on the findings of this study, recommendations for further research are provided. The findings of this study identified that there's no differences in feelings about computers and the web, level of communication, online course support and satisfaction in terms of gender. Also it was found that students' perceptions in these issues were neutral. To explain results found in this study, further studies are needed to investigate the possible factors that influence students' perceptions.

Secondly, to generalize the results of the study, similar studies should be carried out with student groups that have different (grade level, background, work status, physically dispersed) characteristics in different contexts for web-enhanced, online web supplementary or blended course. So that, perception differences in students would be analyzed further.

Moreover, to define the strategies for management of online courses, further studies are needed to be conducted and duration of online courses should be longer in further studies.

Another recommendation is to continue studying the satisfaction level of students those involved in a web enhanced or online course and to include additional demographic variables such as age, C-GPA, work status in these studies.

Also it is recommended that qualitative research studies, utilizing focus groups, observations and interviews be constructed to gain a more in-depth insight into the perceptions of students about web enhanced courses.

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APPENDIX A

STUDENTS' PERCEPTIONS OF WEB ENHANCED COURSE SURVEY

Dear,

The purpose of this survey is to gather information about students' perceptions of their web enhanced course experience. It is particularly important to obtain your responses because your experience will contribute significantly to develop a better online teaching and learning environment.

The required time for completion of the survey is about 15 minutes. 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,

Erden OYTUN

Master student of METU CEIT

Current Feelings about Computer/ World Wide Web

For each of the following pairs of words, on a scale of 1 to 5 please indicate the response that is closest to your **CURRENT FEELINGS ABOUT COMPUTER.**

		1	2	3	4	5	
Q01	Stimulating (Uyarıcı)	O	O	O	O	O	Dull (Tekdüze)
Q02	Fun(Eğlenceli)	O	O	O	O	O	Dreary (Sıkıcı)
Q03	Easy(Kolay)	O	O	O	O	O	Difficult (Zor)
Q04	Personal (Kişisel)	O	O	O	O	O	Impersonal (Kişisel olmayan)
Q05	Hindering (Engelleyici)	O	O	O	O	O	Helpful (Yardımcı)
Q06	Threatening (Korkutucu)	O	O	O	O	O	Unthreatening (Korkutucu değil)
Q07	Efficient (Verimli)	O	O	O	O	O	Inefficient (Verimsiz)
Q08	Reliable (Güvenilir)	O	O	O	O	O	Unreliable (Güvenilmez)

For each of the following pairs of words, on a scale of 1 to 5 please indicate the response that is closest to your **CURRENT FEELINGS ABOUT WEB.**

		1	2	3	4	5	
Q09	Stimulating (Uyarıcı)	O	O	O	O	O	Dull (Tekdüze)
Q10	Fun(Eğlenceli)	O	O	O	O	O	Dreary (Sıkıcı)
Q11	Easy(Kolay)	O	O	O	O	O	Difficult (Zor)
Q12	Personal (Kişisel)	O	O	O	O	O	Impersonal (Kişisel olmayan)
Q13	Hindering (Engelleyici)	O	O	O	O	O	Helpful (Yardımcı)
Q14	Threatening (Korkutucu)	O	O	O	O	O	Unthreatening (Korkutucu değil)
Q15	Efficient (Verimli)	O	O	O	O	O	Inefficient (Verimsiz)
Q16	Reliable (Güvenilir)	O	O	O	O	O	Unreliable (Güvenilmez)

Course Participation

[Q17] Which of the following learning activities were included as a part of your course? *Check all that apply.*

- ☐ Live online chat sessions
- ☐ Web based small group collaborative projects
- ☐ Bulletin board /conference discussions
- ☐ Student developed list of supplemental web sites
- ☐ Student home pages
- ☐ Web based reading assignments
- ☐ None of the above
- ☐ Other_____

[Q18] Which of the following learning activities was participation required as a part of your grade? *Check all that apply.*

- ☐ Live online chat sessions
- ☐ Web based small group collaborative projects
- ☐ Bulletin board /conference discussions
- ☐ Student developed list of supplemental web sites
- ☐ Student home pages
- ☐ Web based reading assignments
- ☐ None of the above
- ☐ Other_____

Online course support

1. **[Q19]** When I asked my instructor a question by email I typically received an answer within;

O Four hours

O Less than a day (5-24 hours)

O Two days

O Three or more days, but less than a week

O A week or more

O Never

O I did not ask questions by email.

2. **[Q20]** I received individual assistance from my instructor when I needed it.

O Yes O No

3. **[Q21]** Which of the following most accurately describes where you sought technical assistance with your web-based course? Check all that apply.

☐ Internet Service Provider (ISP)
☐ Another student
☐ Course instructor
☐ Did not need help.
☐ Other_____

Using the scale below, please indicate how strongly you agree or disagree. (SD=Strongly Disagree; A=Agree; N=Neutral; D=Disagree; SA=Strongly Agree; N/A= Not Applicable)

	S	A	N	D	S	N/A
Q22. I needed a lot of help to access course materials on the web.	O	O	O	O	O	O
Q23. Accessing course information using a web browser such as Netscape or Internet Explorer was easy to do.	O	O	O	O	O	O
Q24. My instructor gave me through information so that I could successfully access course materials.	O	O	O	O	O	O
Q25. Online course support from the instructor though telephone line was available whenever I needed it.	O	O	O	O	O	O
Q26. I was able to access the course website whenever I needed.	O	O	O	O	O	O
Q27. I was able to download from the Web any additional software applications (such as Acrobat Reader, Flash, Real Player, etc.) that I needed to complete course activities.	O	O	O	O	O	O

Level of Communication

Using the scale below, please indicate how strongly you agree or disagree. (SD=Strongly Disagree; A=Agree; N=Neutral; D=Disagree; SA=Strongly Agree; N/A= Not Applicable)

	S	A	N	D	S	N/A
Q28. Using online discussion made me communicate more with my fellow students.	O	O	O	O	O	O
Q29. The bulletin board made a positive contribution to my learning.	O	O	O	O	O	O
Q30. The web conference discussions made a positive contribution to my learning.	O	O	O	O	O	O
Q31. The use of chat room helped me to learn the course materials	O	O	O	O	O	O
Q32. There were sufficient opportunities to interact online with classmates.	O	O	O	O	O	O
Q33. I like having email connection with my instructor.	O	O	O	O	O	O
Q34. Having e-mail provided timely access to my instructor.	O	O	O	O	O	O
Q35. Computer conferencing gave me timely feedback from my instructor.	O	O	O	O	O	O
Q36. The posting of Frequently-Asked-Questions (FAQ's) on the website helped me to move forward with my online studies.	O	O	O	O	O	O

Perceptions of Satisfaction and Success

Using the scale below, please indicate how strongly you agree or disagree. (SD=Strongly Disagree; A=Agree; N=Neutral; D=Disagree; SA=Strongly Agree; N/A= Not Applicable)

	S	A	N	D	S	N/
Q37. Taking a web-based course is more convenient.	O	O	O	O	O	O
Q38. Taking a web-based course is boring.	O	O	O	O	O	O
Q39. When I became very busy with other things, I was more likely to stop.	O	O	O	O	O	O
Q40. I would not take another Web-based course.	O	O	O	O	O	O
Q41. I found the online course a better learning experience than face-to face.	O	O	O	O	O	O
Q42. I gained skills that are useful in my actual or chosen profession.	O	O	O	O	O	O
Q43. I spent too much time trying to log onto the course web site.	O	O	O	O	O	O
Q44. I spent too much time surfing on the Web instead of studying.	O	O	O	O	O	O
Q45. I would recommend taking web-based courses to friends or associates.	O	O	O	O	O	O
Q46. I found learning online to be frustrating.	O	O	O	O	O	O
Q47. This course contributed to my educational or personal development.	O	O	O	O	O	O
Q48. This was one of the best courses I have taken.	O	O	O	O	O	O
Q49. The pace of the course was just about right for me.	O	O	O	O	O	O
Q50. Overall I was very satisfied with this web-based learning experience.	O	O	O	O	O	O

[Q51] What one or two things did you like BEST about your online course? 1._____ 2._____ 3._____ **[Q52]** What one or two things did you like LEAST about your online course? 1._____ 2._____ 3._____	**[Q53]** At the beginning of the course, what grade did you expect to earn? ☐ A ☐ B ☐ C ☐ D ☐ Incomplete **[Q54]** How do you define successful completion of your web-based course? ☐ Earn an A ☐ Earn a B or better ☐ Earn a C or better ☐ Other _____

Additional Statements

General Information

1. I'm ○ Female ○ Male

2. How many online courses have you taken before this course?

None ○ One ○ Two or more

3. About how much total time did you spend EACH WEEK on this course including all online and offline activities associated with this course?

○Less than one hour

○1-2 hour

○3-5 hour

○6-9 hour

○0-12 hour

○13 or more hours

4. What is your Cumulative GPA (4.0 scale)?

○Less than 2.00

○2.01-2.50

○2.51-3.00

○3.01-3.50

○3.51-4.00

5. Student Living Arrangements

○Live with parents.

○Live in Campus Dormitory

○Live off campus with roommates

○Other _____

6. Do you own a computer? ○ Yes ○ No

7. Where is the computer that you primarily use to access the course?

O Computer lab in the department

O Computer lab in dormitories

O In my room in dormitory.

O In my home/apartment

O Other_____

8. What is your high school type?

O General

O Anatolian

O Private

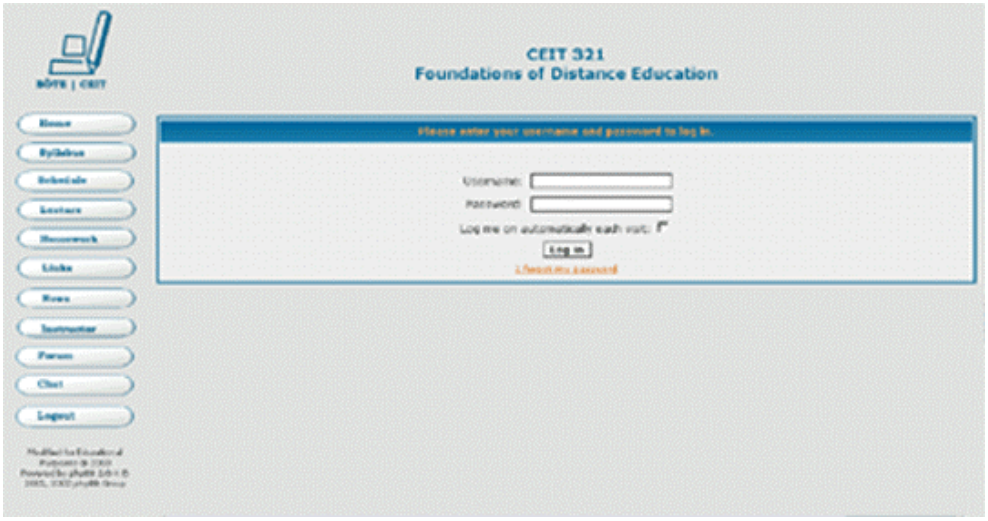
O Vocational

O Technical

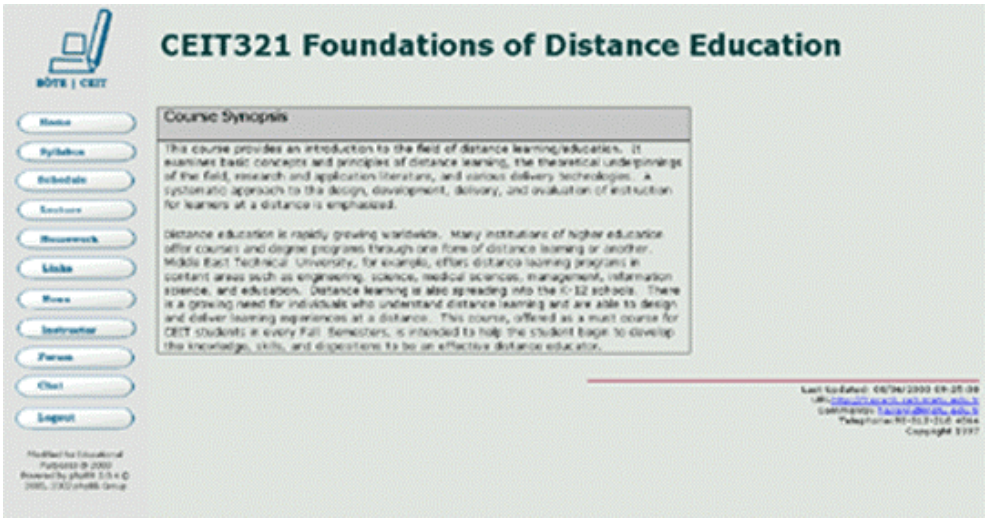
O Other_____

APPENDIX B

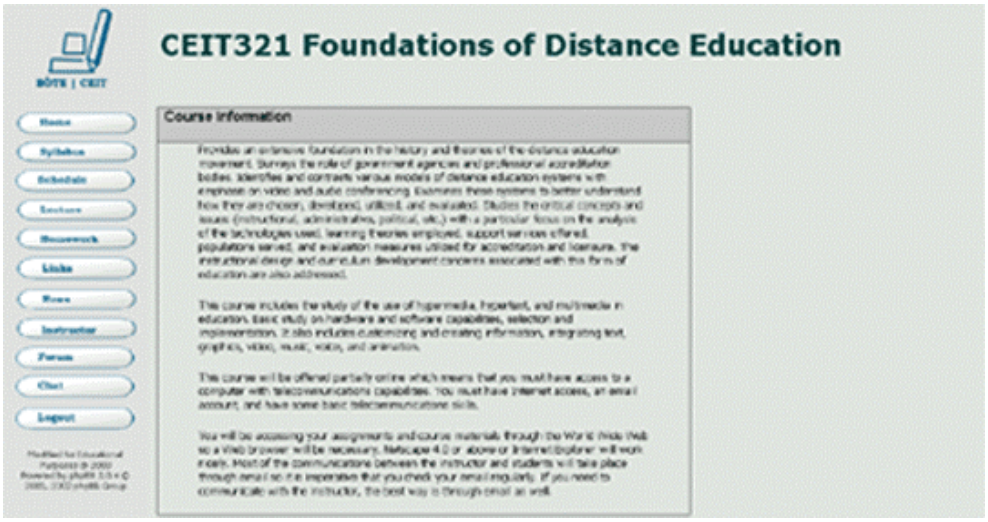
SAMPLE WEB PAGES OF CEIT 231 COURSE
(by the permission from Hasan KARAASLAN, 2002-2003)



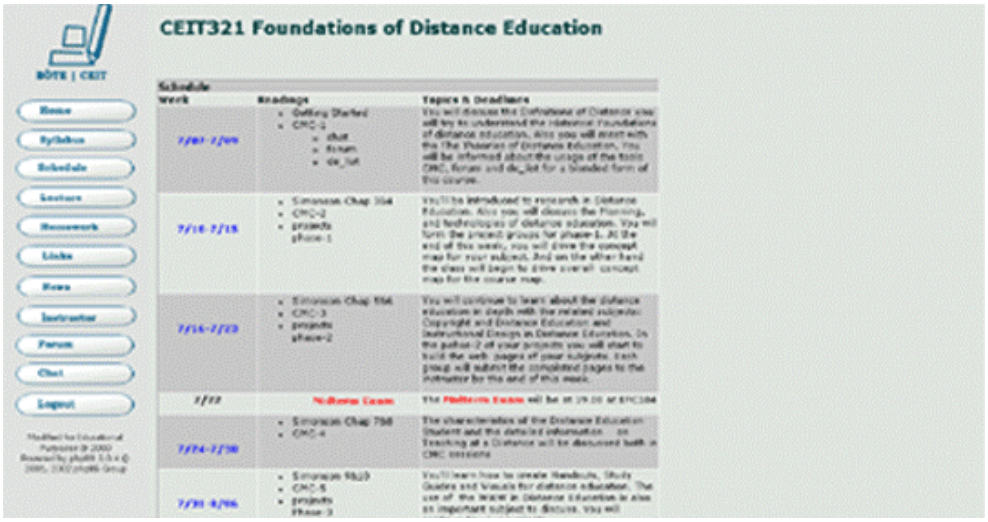
CEIT 231 Web enhanced course: Welcome Page



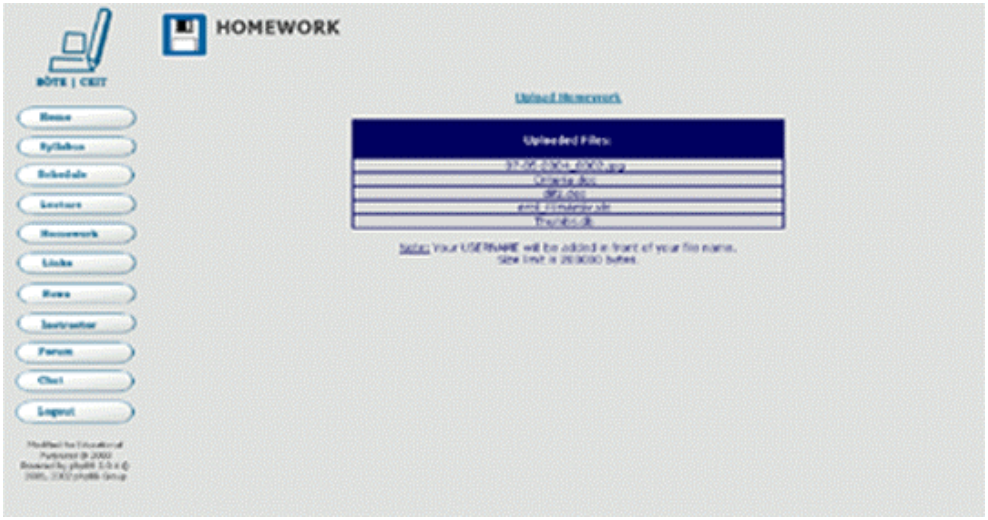
CEIT 231 Web enhanced course: Welcome Page



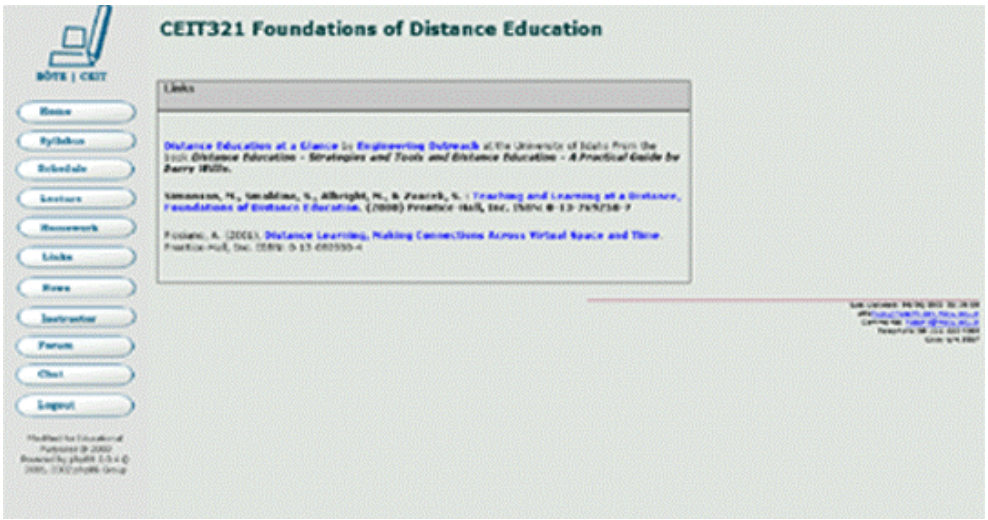
CEIT 231 Web enhanced course: Syllabus Page



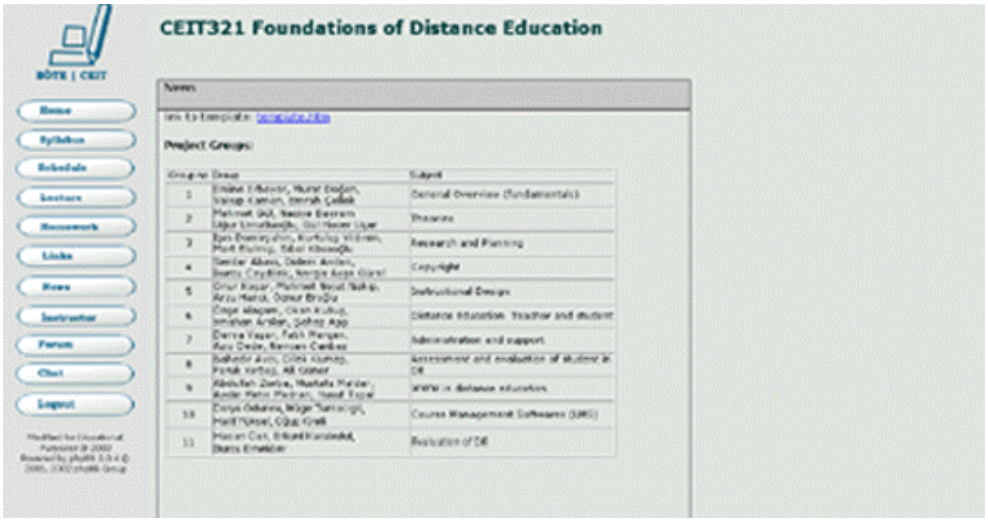
CEIT 231 Web enhanced course: Schedule Page



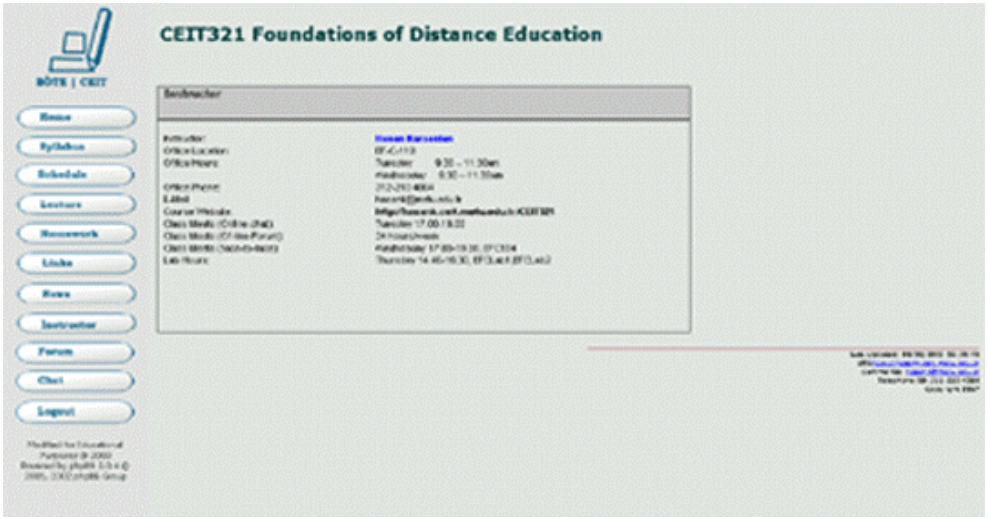
CEIT 231 Web enhanced course: Homework Page



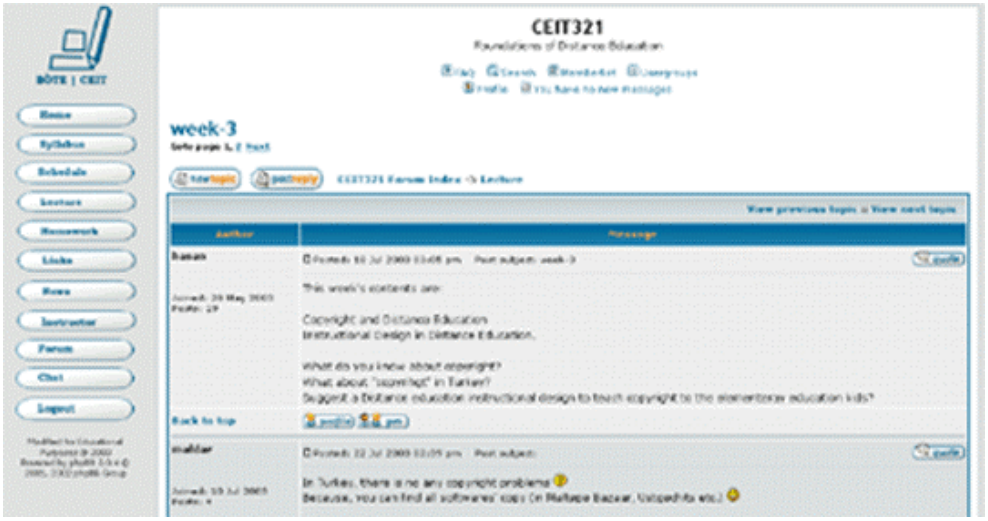
CEIT 231 Web enhanced course: Links Page



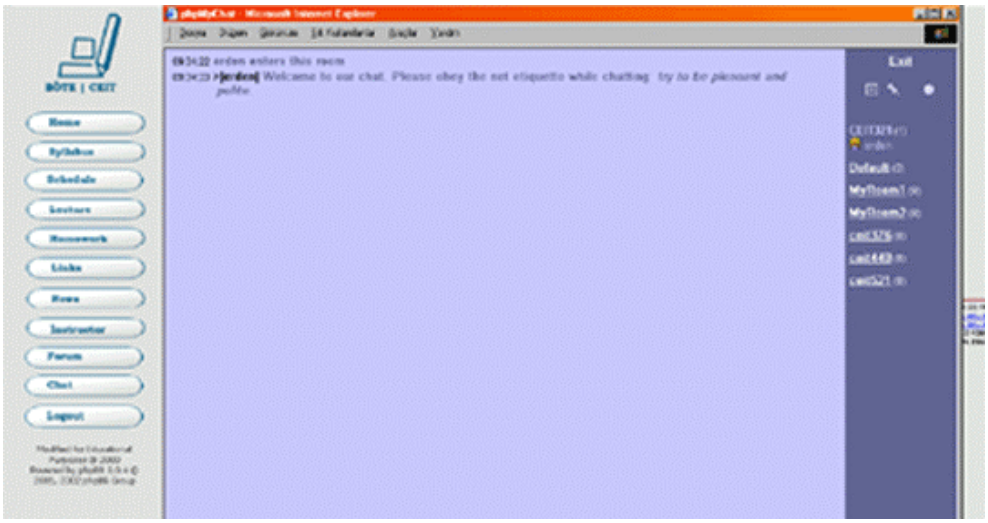
CEIT 231 Web enhanced course: News Page



CEIT 231 Web enhanced course: Instructor Page



CEIT 231 Web enhanced course: Forum Page



CEIT 231 Web enhanced course: Chat Page