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A CASE STUDY OF LEARNER SUPPORT SERVICES IN
THE TURKISH OPEN EDUCATION SYSTEM

by

Murat Ozoglu

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Instructional Technology

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2009

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ABSTRACT

A Case Study of Learner Support Services in
the Turkish Open Education System

by

Murat Ozoglu, Doctor of Philosophy

Utah State University, 2009

Major Professor: Dr. David Wiley
Department: Instructional Technology

The purpose of this study was to examine and identify support service needs and preferences of distance learners studying at the Turkish Open Education System (OES). In order to fulfill this purpose, views and perceptions of OES students on importance and accessibility of student support services at the OES were investigated through a mixed-method approach that uses both qualitative and quantitative data collection and analysis methods.

Data collection took place in three distinct phases. In the first phase, available learner support services were identified through review of the literature, investigation of institutional artifacts, and interviews with the institutional representatives. In the second phase, a questionnaire was administered to OES students in order to collect data about demographic information, students' goals and motivations for participating in the distance education program, their perceptions about the importance and accessibility of support services, and types of support services they needed at different stages of their

study. It also included open-ended questions to allow participants to comment on factors that are most assistive and most impeding in their distance learning experience, and also to allow them to offer suggestions for improving and/or expanding the existing learner support services. Out of 450 questionnaires distributed, 311 usable questionnaires were returned. In the third phase, individual and group follow-up interviews were performed with OES students to gain an in-depth understanding of participants' distance learning experience and to triangulate questionnaire data.

The results of this study revealed that affective support needs of OES students are largely unmet. A large needs gap was identified for five of the six affective support services included in the questionnaire. The largest needs gap was for the counseling services to promote student motivation. Moreover, a large needs gap was identified for two of the ten cognitive support services included in the questionnaire. These were face-to-face academic counseling and communication with course instructor. In addition to affective and cognitive support services, a greater needs gap was identified for one of the six systemic support services, which is orientation to the course media/delivery format. Statistical tests (*t* test and ANOVA) revealed significant differences ($p < 0.05$) in importance and accessibility ratings of several support services based on gender, employment status, and study time.

(256 pages)

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CHAPTER I

INTRODUCTION

Background of the Study

During the last couple decades, nations around the world have experienced a steep increase in the number of both secondary school graduates desiring to pursue higher education and working adults seeking specialized training to advance their careers and/or to keep up with the rapid changes in their professions. Therefore, the increased demand for educational opportunity and the need to find cost-effective solutions to meet this demand have become the top priority in national educational provisions—especially in the developing countries where population growth is most rapid and a well-trained workforce is most desired.

Stimulated particularly by the accomplishment of the British Open University, governments have recognized that distance education, when properly implemented, presents a cost-effective means of improving access and equality of opportunity for large populations to participate in education, and fulfilling the ever-changing human-resource needs (Calvert, 2005). This recognition has motivated governments throughout the world to establish distance education institutions, some of which became “mega-universities” with more than 100,000 enrollments.

These distance education institutions have played an increasingly vital role in the educational system of their countries. They have created enormous opportunities for their respective countries to expand the educational opportunities, especially at the higher education level, while strikingly reducing the associated cost. They have successfully embraced individuals who previously had been denied access to higher education for

different reasons. Moreover, they have promoted further socioeconomic growth in their respective countries by building a broad and well-skilled workforce through inservice training. Collectively, these institutions have acted as a catalyst to improve access and equality of opportunity and to meet the increased demand for higher education, lifelong learning, and well-skilled workforce.

Despite these accomplishments, many issues related to their performance and qualities remain largely unsettled. Namely, shoestring funding by governments, inadequate investment in design, development and delivery of course materials as well as in learner support services, and the absence of training and professional development opportunities for faculty members have all adversely affected the quality of distance programs (Dhanarajan, 2001). The failure to ensure high quality has had the unfortunate consequence of giving rise to negative perceptions of distance education among the public. Even more than 30 years after the establishment of some of the great open universities, students and the public still consider distance education institutions as second-class or last-resort alternatives (Askar, 2005; Dhanarajan; Jegede, 2001). For instance, in Turkey, when compared with traditional universities, the degree earned from distance institutions is often regarded as having a lower standard (Demiray, 2000; Gursoy, 2005; Ozkul, 2000). Furthermore, concerns regarding the quality of distance programs have had a negative influence on retention rates. Even in the well-established British Open University, the non-completion and drop-out rates are high. Tait (2003) cites that in the 1997-98 school year non-completion rates were around 47%, and there has been a decline of some 5% in student retention over the past 5 years.

As these issues become more widespread, distance educators are beginning to pay more attention to the quality of teaching and learning across their distance programs. Quality in distance education is a function of a multitude of factors including, but not limited to, production of course materials, integration of instructional delivery systems, and development of learner support services (Mills, 2003). In most distance education institutions, more resources have often been invested in course materials and instructional delivery systems than in learner support services; therefore, learner support has long remained an overlooked component of quality assurance efforts (Brindley, 1995; Moreland & Carnwell, 2000; Potter, 1998; Rumble, 2000). Recently, however, distance educators have shown a growing interest in learner support with the recognition that better quality can be accomplished through enhancing and developing effective student support mechanisms (Scheer & Lockee, 2003).

Problem Statement

Providing support for distance learners is a vitally important component of delivering quality distance education (Moore, 2003; Simpson, 2000). Support services contribute to academic, personal, and career development of students and assist them in overcoming the inherent difficulties of studying at a distance—resulting largely because of feelings of isolation (LaPadula, 2003). Moreover, support services contribute directly to the two key issues of distance education: recruitment and retention (Mills, 2003). Students without adequate support are likely to delay completion of their studies or drop out from the distance programs (Reid, 1995).

Despite the aforementioned significance of learner support, learner support mechanisms are often underdeveloped or overlooked in most distance education institutions (Scheer & Lockee, 2003). One reason for the unfortunate situation is that most distance institutions have an inadequate understanding of how to plan and organize quality learner support systems. Many researchers have acknowledged the pressing need for more research studies guiding us in the development and implementation of quality learner support systems in distance education (Robinson, 1995; Visser & Visser, 2000).

Considering that learner support systems deal with the individual learner (Moore, 2003; Robinson, 1995), particularly needed are studies that focus on special concerns and needs of individual learners (Potter, 1998). Support systems that do not account for the opinions and preferences of target students would be incomplete and misleading. The literature indicates that the most effective support services are those that have been re-designed from the learners' perspective (Axelson, 2007; Visser & Visser, 2000). Tait (1995) has suggested that the first step for planning any kind of learner support is to determine who your students are and what their expectations are. Sewart (1993) acknowledged this by suggesting that "the management of learner support needs to take account of the needs of the learners as expressed by themselves or by the intermediaries" (p. 11).

Research that systematically reviews the learner's support needs from the learner's point of view is scarce (Potter, 1998; Reid, 1995), and most of the existing studies have been conducted within a western distance education context. Western distance education institutions usually differ widely from their eastern partners in many

different ways, including program management, geographical setting, technological infrastructure, program scale, and student characteristics. It is uncertain whether the findings of these studies conducted in the west have the same implication within the eastern distance education context. Therefore, an investigation of learner support services in eastern distance education institutions is particularly important.

In this needs assessment case study, the current state of learner support services at the Turkish Open Education System (OES) in Anadolu University was investigated. Anadolu University OES was selected for this study because it reflects a majority of the characteristics of eastern distance education institutions. Moreover, several related factors suggest that student support is a vital issue in OES and clearly deserves further investigation.

First, like many other distance education institutions, OES has high attrition rates. About 40% of the students admitted to OES drop out during their first two years of study; also, graduation rates are as low as 25.4% in Bachelor degree programs and 49.5% in Associate's degree programs (Latchem, Özkul, Aydin, & Mutlu, 2006). The high rates of attrition and low rates of graduation in OES are, in part, evidence that the support needs of OES students are largely unmet.

Second, most students find the methods of OES—from initial registration and course selection through the various nontraditional delivery options—difficult, unusual, and confusing. The reason for this is that they are graduates of a teacher-centered primary and secondary school education in which teachers make most of the educational decisions and, therefore, the students' independent and self-directed learning skills are

underdeveloped (Gursoy, 2005; Murphy, 1991). The majority of students enjoy structure, stability and supportive relationships, and have less desire to control or manage their own learning. When these students begin their study in a system that emphasizes independent learning—primarily from textbooks—they might need extra support in order to navigate their way through a sometimes confusing set of educational and administrative activities (Murphy).

Third, OES is not considered an alternative to mainstream education; rather, it is usually considered a last-resort option for those who are not able to attend traditional campus-based institutions due to their lower score in the university entrance examination (Askar, 2005; Gursoy, 2005). In this sense, for most of the recent high school graduates, the decision to attend OES is not an informed one based on their needs, values, motivations and qualifications. Rather, they choose to continue their post-secondary education at OES because there is no other option for them (Gursoy). Therefore, most of these students do not question appropriateness of and requirements for studying at a distance before they enroll. After enrolling, many find that they are unsuited to studying at a distance. A well-functioning student support system is needed to help this uninformed student population develop attitudes and skills associated with distance learning success.

Purpose of the Study

The purpose of this research study was to examine and identify support service needs and preferences of distance learners studying at the Turkish OES. In order to fulfill

this purpose, views and perceptions of OES students on importance, availability, and accessibility of student support services at the OES were investigated.

Research Questions

The research question formulated to guide this study was as follows: What are the support services that OES students perceive as needed in order to become successful distance learners? Following subquestions were formulated to guide the researcher in answering this broad research question:

1. Which support services are currently available to OES students?
2. What are the perceptions of OES students about the importance and accessibility of learner support services that they receive?
3. At which stages of the distance learning process do OES students need support most? And what particular services do they need?
4. What suggestions do OES students make about improving the existing learner support services at OES?

Significance of the Study

The significance of this study is three-fold. First, as indicated in the problem statement section, research that systematically reviews the distance learners' support needs from their own point of view is scarce. Therefore, the results of this study build a fundamental base for similar future research on distance learner support. More importantly, a majority of the existing studies were done in western distance education context with a Western philosophical perspective. Provided that this study was done in an

institution that reflects the main characteristics of eastern distance education context, the results of this study also provide implications for instructional practice and educational research and theory from a different socio-cultural perspective.

Second, this study helps OES administrators gain information about support needs and preferences of their distance learners and identifies possible areas of improvement in existing learner support services. In addition to its immediate relevance to the Turkish OES, the findings of this study might have implications for similar distance education institutions in developing and implementing quality learner support services.

Third, this study is a needs assessment study, and performing a needs assessment is an extremely important—and in many cases, the first and foremost—step of the instructional design process. Without analyzing the needs of learners, the instructional design and development process would be incomplete because instructional solutions and strategies should be closely tied to the needs of learners. Provided that meeting the needs and expectations of learners is a central concept in the development of effective learner support services, performing a needs assessment is a particularly important step in designing and developing learner support services (Tait, 1995).

CHAPTER II

REVIEW OF LITERATURE

This review examines the current literature related to support services for distance learners to provide a conceptual framework for the current study. It is noteworthy at the outset that empirical enquiry about learner support is limited and the literature on learner support is predominantly occupied by authoritative essays and reports based on experiences (Robinson, 1995; Visser & Visser, 2000). Therefore, this review draws not only upon the empirical research but also upon authoritative articles reflected in the literature to present experts' opinions.

The organization of this chapter is as follows. In order to provide background regarding the study context, this chapter starts with an overview of the OES. Since this is a study of a needs assessment, the second section is reserved for a brief review of literature on needs assessments. The third section includes an examination of how learner support is defined and conceptualized in distance education literature. The fourth section briefly discusses the rationale for the development of support services in distance education. The fifth section briefly presents the issues and barriers distance learners encounter as it relates one of the primary goals of learner support, that is, to remove possible issues and barriers to learning. The sixth section discusses the conceptual frameworks developed for designing effective learner support services for distance learners. The chapter closes with a summary of the literature review on learner support.

The Open Education System

The OES operates under the administration of Anadolu University in Eskişehir, a city located in northwest Turkey with a population of approximately 720,000. Anadolu University is a dual mode university and is the first higher-education institution in Turkey that offers distance education on a national scale. Anadolu University OES was established in 1982, with approximately 29,500 students enrolled in two distance education programs: Business Administration and Economics. Since then OES has continuously extended its educational offerings and educated a considerable number of people, making a significant contribution to the development of Turkish society.

Origins of Turkish Open Education System

Establishment of the OES is closely tied to the burgeoning economic and social demands in Turkey. The rapid industrialization of Turkish economy after the 1960s, reinforced by the political desire to realize the State's development plans, has created a growing demand for a broad and well-trained workforce. With the integration of new technologies into the workplace, the country has especially experienced a steep increase in the numbers of working adults demanding professional and technical knowledge. Moreover, the growth in the young population, coupled with the social desire to move upward into middle-class status, has strengthened the demand for higher education. Therefore, the need to find cost-effective means of responding to this overwhelming demand had become the top priority in the national educational provisions.

In response to this need, the government increased the number of universities from three to nine at the beginning of 1970s. Moreover, by the end of the 1970s, ten more

universities were established. However, due to limited capital that had to be shared among several other national development and modernization programs (i.e., national defense, industrialization, and agriculture) and lack of enough professional staff, the pace of increase in the number of universities was far below the pace of increase in the number of people wishing to get higher education. For this reason, expanding the campus-based higher education model alone did not present a viable solution to the accessibility problem in higher education.

The most significant step towards solving the accessibility problem in higher education was taken through the Higher Education Act of 1981, which reorganized the Turkish higher education system fundamentally. The act not only created eight more universities through reorganization and aggregation of the existing academies and four-year vocational schools, but also entitled higher education institutions to offer continuous and distance education. Moreover, for the first time in history, nonprofit entities in Turkey were granted permission to launch and operate universities.

In accordance with this act, Anadolu University was delegated the responsibility for offering distance education programs on a national scale in 1982. In the same year, existing Faculty of Communication Sciences at Anadolu University was rearranged and a new faculty, Open Education Faculty (OEF), was established to offer two distance education programs in Business Administration and Economics. OEF started distance education with approximately 29,500 students enrolled in these two distance education programs. In the following years, OEF has expanded its educational offerings, and as a result, OEF enrollments increased at an enormous rate.

Since its establishment, OEF has experienced several changes in its administrative structure. The most important change was the establishment of two new faculties in 1993: Faculty of Business Administration and Faculty of Economics. Students studying in former Business Administration and Economics programs of OEF were transferred into the respective faculties. In this new organizational set-up, OEF took the central role for design, development and delivery of instruction and student services for the whole Open Education System, which is comprised of these three faculties (Ozkul, 2000).

Educational Programs Offered by OES

Today OES offers bachelor's and associate's degrees and certificates for people living in Turkey and Northern Cyprus and for Turkish citizens living in West European countries, mainly in Germany, Belgium, France, Austria, Netherland, and Switzerland. For people residing in Turkey and Northern Cyprus, there are seven bachelor's degree programs, 20 associate's degree programs, and 21 certification programs available. Western Europe Programs (WEP) includes three bachelor's degree programs, four associate's degree programs, and seven certification programs.

Programs offered by each faculty are listed in Table 1. Open Education Faculty offers all the associate's degree programs and certification programs and two bachelor's degree programs in English Language Teacher Education and Pre-School Teacher Education. Faculty of Business Administration offers one bachelor's degree program in Business Administration. Faculty of Economics offers four bachelor's degree programs in Labor Economics and Industrial Relations, Public Administration, Finance, and

Table 1

Educational Programs Offered by Open Education System

Programs by faculty	Degree	Availability
<i>Open Education Faculty</i>		
Accounting	AD	DP
Tourism and Hotel Management	AD	DP, WE
Banking and Insurance	AD	DP
Management of Health Institutions	AD	DP
Public Relations	AD	DP, WE
Social Sciences	AD	DP
Foreign Trade	AD	DP, WE
Home Management	AD	DP
Office Management and Secretarial Training	AD	DP
Local Government	AD	DP
Retailing and Store Management	AD	DP
Theology	AD	DP
Information Management (online)	AD	DP, WE
Real Estate Management	AD	DP
Human Resources	AD	DP
Social Services	AD	DP
Agriculture	AD	CP, DP
Laboratory Assistant & Veterinary Laboratory Services	AD	CP, DP
Private Security and Protection	AD	DP
Brand Communication	AD	DP
English Language Teaching (blended learning)	BD	CP, DP
Pre-school Teaching	BD	CP, DP
<i>Faculty of Economics</i>		
Economics	BD	DP, WE
Labor Economics and Industrial Relations	BD	DP
Public Administration	BD	DP, WE
Public Finance	BD	DP
<i>Faculty of Business Administration</i>		
Business Administration	BD	DP, WE

Note. AD = associate's degree; BD = bachelor's degree; DP = domestic programs open to General High School and Vocational Technical High School graduates in Turkey and Northern Cyprus; WE = West Europe programs open to Turkish high school graduates in the European Union countries; CP = occupational programs contracted by the Government Agencies.

Economics. Except for one course, the first two years of all bachelor's degree programs offered by Faculty of Business Administration and Faculty of Economics are composed of the same courses. Students who complete the first two years of these programs but are not willing to continue their studies receive an associate's degree.

Occasionally, OES offers degree completion programs in contract with governmental units such as the Ministry of Education, Ministry of Health, Ministry of Justice and Ministry of Defense. These programs provide occupational training for the staff working under these ministries. So far thousands of police, teachers, nurses, and military personnel from Army, Navy, and Air Force have received training through OES. Certification programs (e-certificate) have recently started in the spring semester of 2007. These programs are being offered three times a year during fall, spring, and summer semesters. Each program is composed of three online courses, and the cost for each program is about \$150 for people living in Turkey, and €200 for Western Europe certification programs.

Courses offered in each program are predetermined and students have very limited choice in terms of course selection. In most programs, the only course choice given for students is for the foreign language. Moreover, students are not given the option to register part time.

Admission to OES

Despite its title, admission to OES is not open. Admission criteria change from one program to another. The general admission requirement for all programs is that applicants need to hold either a traditional high school diploma or a vocational and

technical high school diploma in Turkey. Certification programs don't have any other requirements for admission. Bachelor's degree and associate's degree programs require students to have a score of 145 or above¹ in the University Entrance Exam administered by the Student Selection and Placement Center (SSPC). However, for associate's degree programs, the test requirement is waived for those vocational or technical high school graduates who want to continue in the same field of study.

There are other types of admissions where the test requirement is waived. For example, those students who graduated from Vocational Schools or the Open Education Faculty with an associate's degree or final-year students in such programs who do not expect to fail in any course can apply for Anadolu University to get directly enrolled in the 3rd year courses of the Economics and Business Administration Faculties. Moreover, students who are enrolled in a bachelor's degree program at a traditional university or graduates of such a program are given the opportunity to enroll in open education bachelor's or associate's degree programs other than the fields they are studying or graduated from. Also, students who left their bachelor's degree programs with an associate's degree are given the opportunity to complete their bachelor's degree in certain bachelor's degree programs.

Most programs do not have enrollment limits. There are only three limited-enrollment programs. These programs are English Language Teacher Education (limit is 530), Pre-School Teacher Education (limit is 2000), and Information Management (limit is 500). English Language Teacher Education program accepts students based on their

¹ Approximately 80% of the test participants scored 160 or above in the 2007 University Entrance Examination (SSPC, 2008).

scores in the Central English Language Test administered by SSPC. Pre-School Teacher Education program accepts only graduates of Vocational Schools for Girls who focused on the following subjects during their high school study: Child Development, Child Development and Education, and Child Development and Care. Both Pre-School Teacher Education and Information Management programs accept students based on their scores in the University Entrance Test.

Enrollment and Student Profile

There are approximately 900,000 students enrolled in OES. This accounts for 37% of the total university enrollment in Turkey (SSPC, n.d.). As illustrated in Table 2, over the past six academic years, the average new enrollment was approximately 200,000 per year. The programs with the most enrollees are the bachelor's degree programs offered by Faculty of Business Administration and Faculty of Economics. The enrollment in these programs accounts for approximately 65% of the total OES enrollment.

Table 2

OES Enrollments Between 2002 and 2008

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Bachelor's degree	89314	102583	106131	137024	130243	116843
Associate's degree	136961	63646	75348	75543	61320	75437
Total	226275	166229	181479	212567	191563	192280

Source: SSPC (n.d.)

By the end of the 2007-2008 academic year, the number of students who graduated from associate's and bachelor's degree programs had reached approximately one million. Due to the freshness of the certification programs, there is no current enrollment and graduation data available.

OES students are usually older than their traditional university (TU) counterparts. According to the 2007-08 academic year data, 44% of the OES students are 25 or older, whereas only 7% of the traditional university students are 25 or older (SSPC, n.d.). As illustrated in Figure A, approximately 90% of the university students who are aged 30 or more are OES enrollees.

The percentage of female students in OES (45%) is slightly higher than in traditional universities (42%). There is no apparent data for other demographic characteristics of OES students except for a latest report by Latchem et al. (2006). According to this report, approximately 65% of OES students are metropolitan-based, 70% are employed either full-time or part-time, 40% are married, and 1.5% are disabled.

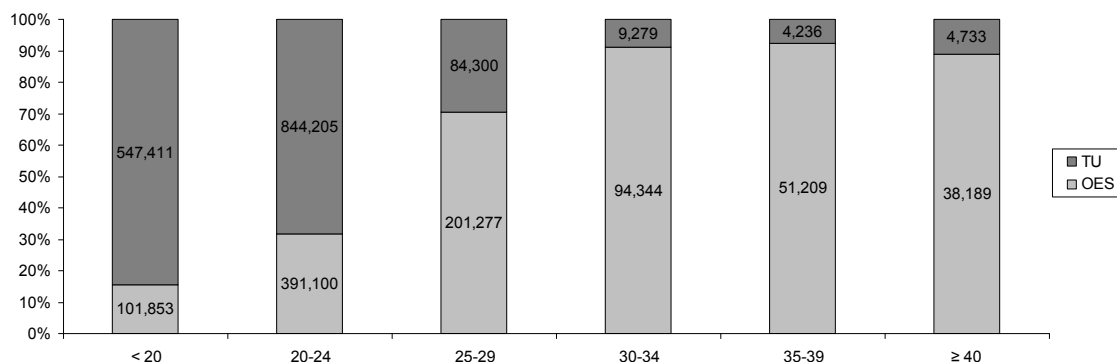


Figure 1. Comparison of age groups in traditional universities (TU) and OES.

Delivery of Instruction

The most important instructional elements at OES are textbooks. Textbooks are co-developed by a team of field experts from various universities and instructional designers from Distance Education Design Unit of OES. Each year, print house, located at the Anadolu University campus, prints approximately 4 million copies of more than 400 textbooks. Textbooks are delivered to local OES offices. Students pick up textbooks from the local offices at the beginning of each school year after they complete registration.

Textbooks are supplemented through optional group-based face-to-face academic counseling (tutoring), television and radio programs, and a web-based e-learning portal. Face-to-face tutoring services are provided by over 700 locally recruited academic personnel in 74 different locations during nights and weekends. However, face-to-face academic tutoring is offered only for ten most common and relatively difficult courses: three first-year courses, three second-year courses, and four third-year courses. These courses are Mathematics (1), Accountings (1), Introduction to Economics (1), Applications for Accounting (2), Statistics (2), Theory of Economics (2), Cost Accounting (3), Turkish Tax System (3), Financial Management (3), and English (3). Participation numbers in each course range anywhere from 50 to 1,000 depending upon the location and time.

Television and radio programs are produced by the Educational Television Center (ETC). Over the course of the last three decades, the ETC has produced and revised approximately 5,200 TV and 400 radio programs. Prerecorded TV programs are

broadcast nationwide on the Turkish Radio and Television Channel 4 (TRT-4) over 800 hours each year. In addition to the prerecorded TV programs, OES offers live and interactive test prep TV programs prior to the midterm and final exams.

The e-learning portal provides students with remote access to the majority of the instructional elements in electronic format. The portal includes textbooks (e-book), TV programs (e-television), practice software (e-practice), practice exams (e-exam), audio books (e-audiobook), and synchronous and asynchronous academic facilitation services (e-facilitator). Academic facilitation services allow students to ask content-related questions of the subject matter experts. Synchronous academic facilitation services are provided only for the fourth-year courses offered by Faculty of Business Administration and Faculty of Economics. This service is a great opportunity for those students who are unable to attend face-to-face counseling because of their busy schedules or other reasons.

Assessment

Students are assessed by multiple-choice tests with machine-scored answer sheets. There is one midterm and one final test proctored in local universities in collaboration with regional OES offices. Midterm and final tests are administered in late March and early June respectively. OES uses traditional 100-point scale for grading. Midterm and final tests account for 30% and 70% of the final grade, respectively. A final grade of 50 is required to pass a course. Failing students are allowed to take a makeup test in early September.

Funding

OES receives around 24 % of its annual budget from the government. The rest come from student fees (Latchem et al., 2006). The budget allocated from the state for OES students is very low compared to their counterparts in traditional universities. The OES receives about 5% of the state's per-student contribution offered to traditional universities (Latchem et al.).

Open Courseware Initiative

Anadolu University launched its own open courseware called Yunus Emre New Age Learning Portal (YENALP) in 2008. YENALP provides the general public with open access to great majority of the educational materials available in the OES e-learning portal. Currently, there are 129 online courses in 20 different subjects. Each course has at least two of the following instructional components: e-book, e-television, e-course, e-practice, and e-exam. Users can read or print the textbooks via e-book, download and watch the videos via e-television, study in an interactive environment via e-course, improve their knowledge via e-practice, and assess their knowledge via e-exam. Some courses also have e-audiobook specifically designed for people with visual problems. All the educational materials in YENALP are registered under the Creative Commons License.

In terms of the quality of the educational materials, YENALP is one step further than traditional open courseware initiatives. Because, unlike a majority of the open courseware initiatives, educational materials included in YENALP are specifically designed for distance learning and, therefore, facilitate remote learning more effectively.

Moreover, people who completed certain courses in one subject can later register for OES certification programs related to that subject and get certified by completing the necessary tests.

Needs Assessment

Often an organization or institution will recognize that different stakeholders—be it service providers, service receivers, or others—might have different needs that ought to be addressed for a better organizational or institutional performance. While some needs are expressed or noticeable, others are unexpressed and stay latent. In both cases, a systematic and objective investigation is required to identify and evaluate both recognized and latent needs in relation to the factors contributing to their perpetuations and to translate that information into feasible solutions that can address the identified needs. Needs assessment is acknowledged as an important subset of evaluation practice that can successfully satisfy such requirements.

Over the past couple of decades, an extensive body of literature has emerged to guide the theory and practice of needs assessment. Yet, as in most areas of educational research, there has been an ongoing debate over the definition, purpose, and methods of needs assessment. This section is intended to provide an overview of needs assessments. It begins with a discussion of how “need” and “needs assessment” are defined and what purposes needs assessments serve. It will continue with a brief description of the needs assessment process. Finally, a brief discussion of common methodological approaches used in a needs assessment process will be provided.

Definitions of Need

To better understand the practice of needs assessment, it is essential to examine the concept of “need” first. However, this concept is very complicated and not easy to deal with. In fact, many scholars in the field have acknowledged that the lack of a generally accepted, practical, and substantive definition of need has been the major problem, creating lots of confusion about the practice of needs assessment (Lenning, 1980; Owen & Rogers, 1999; Pennington, 1980; Witkin & Altschuld, 1995).

McKillip (1987) has defined need as “the value judgment that some group has a problem that can be solved” (p. 10). McKillip suggests that this definition has four important elements. First, people with different values might have different needs and, therefore, recognizing needs should involve values. Second, needs are not context free; they are possessed by a particular group of people in a particular set of circumstances. Therefore, a description of the target group and its environment is an integral part of a needs assessment. Third, a problem is an inadequate outcome or process that violates expectations that are reflected by a range of values. Forth, recognition of a need involves a judgment that potential solution(s) exist to meet that need.

Reviere, Berkowitz, Carter, and Gergusan (1996) defined need “as a gap—between the real and ideal conditions—that is both acknowledged by community values and potentially amenable to change.” This definition has three important components. First, a gap must exist between the real/current and the ideal/intended conditions. Second, the gap must be recognized as a need by a community in relation to its values. Third, the gap must be amenable to alter, meaning that needs must be potentially addressable. If no

change is possible, solutions should focus on conditions that are modifiable.

Witkin and Altschuld (1995) made a distinction between need as a noun and need as a verb. Need as a noun refers to a discrepancy or gap between the present and the desired state or condition. Therefore, as a noun, “a need is not a thing in itself but, rather, an inference drawn from examining a present state and comparing it with a vision of a future (better) state or condition” (p. 9). Need as a verb, on the other hand, refers to what is required or desired to close the gap and, therefore, refers to solutions or means to an end. These authors argue that the major drawback in many needs assessment studies is that these two meanings of need are often confounded.

Witkin and Altschuld (1995) also made a distinction between recognized and latent needs, and between met and unmet needs. When people in a group are aware of their needs, these needs are recognized and often expressed as demands. When they are not aware of their needs, these needs are considered unexpressed or latent. According to Witkin and Altschuld, needs assessment studies are pursued to uncover the unmet needs—be it recognized or latent.

Lenning et al. (cited in Lenning, 1980) defined need:

A necessary or desirable condition, state, or situation—whether it be an end result that is actuality (met need) or a discrepancy that should be closed between a current or projected actuality and a necessary or highly desirable end result (unmet need)—as judged by a relevant person or group using multiple objective criteria that have been agreed upon. (p. 12)

According to Lenning, this definition combines discrepancy with necessity and, therefore, is capable of distinguishing needs in terms of levels of necessities and amount of discrepancies.

Lenning (1980) and McKillip (1987) suggest differentiating the concept of need from such other popular concepts as want (something people are willing to pay for) and demand (something people are willing to march for). Lenning asserts that an individual who wants or demands something may not necessarily need that thing. In general, he suggests that a want (or a demand) may be an expression of a need or needs, but not all the needs are expressed directly by a want (or a demand). Wants may provide good signs of existing needs—especially if wants are expressed in severe and critical terms. However, regarding wants and needs as the same notion often causes people to overlook other types of critical information that could validate whether those wants are valid and reliable indicators of a need (Lenning).

Classification of Needs

It is important for a needs assessment study to specify the needs along with the target population with which the study will concern itself before the needs assessment starts. This will help the researcher delineate the boundaries of the study at the outset (Lenning, 1980). This necessitates a good understanding of potential or possible categories of needs outlined in the literature. Some of the important categorization systems are discussed below.

One of the best known is "hierarchy of needs," developed by Maslow (1954) from a physiological stand point. His hierarchy of needs is set in order of importance and consists of five levels (see Figure 2). Found at the lower levels are the highest priority needs (psychological and security needs); needs that an individual is motivated to fulfill first. Maslow hypothesized that an individual will initially seek to satisfy lower-level

(basic) needs and that the higher-level (complex) needs in this hierarchy come into focus (are prioritized) only after the lower-level needs are met. Conversely, if lower-level needs are no longer being met, the individual will no longer be concerned about maintaining higher-order needs. This model has been criticized for an overly optimistic and linear view of human needs. Yet, it suggests that solutions to address needs of people should be prioritized based on urgency of needs.

Another well-known taxonomy, developed by Bradshaw (1972), classifies needs into four different types: felt need, expressed need, normative need, and comparative need. Felt need refers to the need experienced by an individual. Some felt needs may

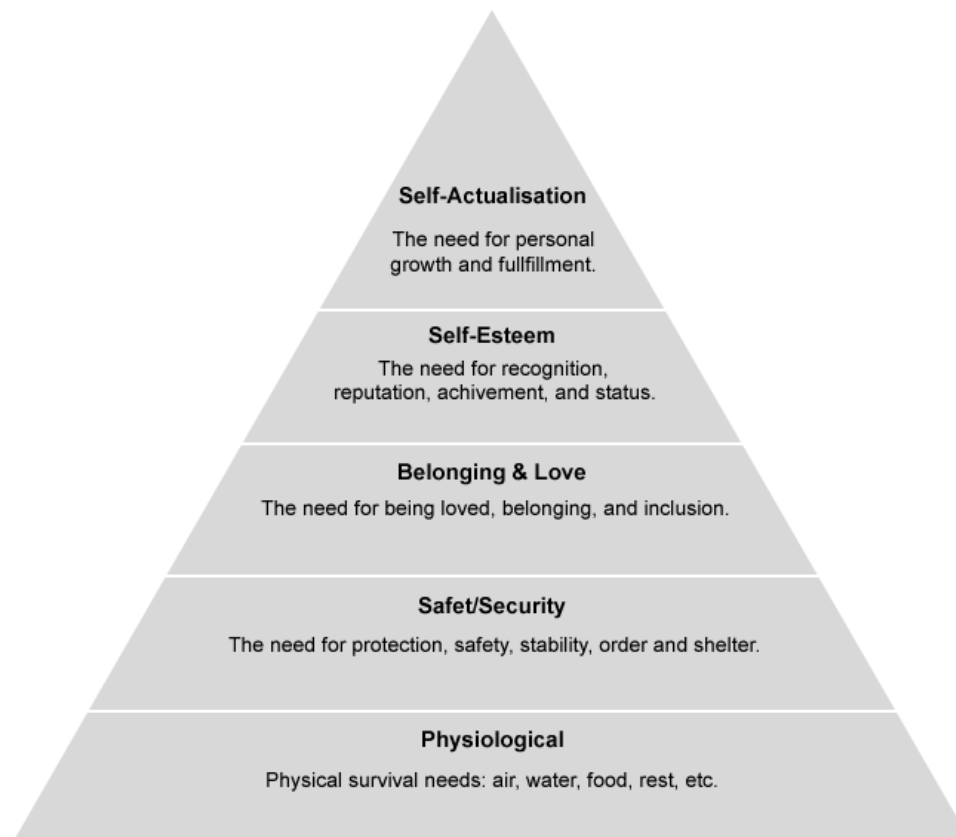


Figure 2. Maslow's hierarchy of needs pyramid.

be expressed, while others may remain hidden or unrecognized. Expressed need is the felt need put into action in the form of waiting lists, written complaints, signing a petition, etc. Some authors equate felt need to want, and expressed need to demand, and argue that these are not truly representing a need (Reviere et al., 1996; Rothman & Gant, 1987). Normative need refers to the need determined by “professionals” or “experts” in given situations based on an established standard. Comparative need is the need determined by comparing the services/resources available for a particular ‘client’ group with what is available for another group.

Taking the discrepancy definition of need as a base, Roth (1990) made a distinction between various types of needs or discrepancies. Roth formulated “need” as follows: $N = D - A$.

In this formula, “N” stands for the need or discrepancy, “D” stands for the target state, and “A” stands for the actual or present state. According to Roth (1990), depending on how the target state is defined or perceived, the need might have different meaning as displayed in Table 3. It is noteworthy here that the last two categories (want and expectancy discrepancy) are considered as wants rather than needs (Owen & Rogers, 1999).

Witkin and Altschuld (1995) suggested three levels of target groups and their respective needs in a system, organization, or community. Level 1 (primary) includes service receivers such as students, clients, patients, or commuters and their respective needs. Level 2 (secondary) includes service providers and policymakers such as teachers, parents, social workers, caretakers, or health care professionals and their respective

Table 3

Meaning of Need

N	D	A
goal discrepancy	= ideal state	– actual state
social discrepancy	= normative state	– actual state
essential discrepancy	= minimal state	– actual state
want discrepancy	= desired state	– actual state
expectancy discrepancy	= expected state	– actual state

needs. Level 3 (tertiary) includes resources or solutions such as facilities, equipments, technology, delivery systems, or salaries and their respective needs.

There are many other categorizations of needs that have been developed to place needs into categories along a continuum in a particular dimension (Lenning, 1980). These include, but are not limited to, short-term versus long-term needs, individual verses group needs, basic verses complex needs, conscious versus unconscious needs, needs for products versus needs for services, and easy-to-measure versus difficult-to-measure needs (Lenning). Lenning noted that “Thinking in terms of such dimensions can be helpful for determining and setting the appropriate and desired boundaries of focus in planning for an assessment of needs” (p. 19). Lenning also warned that the needs of a group may not be necessarily aggregations of the needs of individuals within that group.

Definition and Purpose of Needs Assessment

Similar to the concept of need, needs assessment itself has been defined many different ways. Upcraft and Schuh (1996) defined needs assessment from an educational research stand point as “The process of determining the presence or absence of the factors and conditions, resources, services, and learning opportunities that students need in order to meet their educational goals and objectives within the context of an institution’s mission” (p. 128).

Pennington (1980) suggested that needs assessment studies are “rational responses to identified problems, designed to suggest alternative solutions to those problems and to provide the requisite information, so that action decisions can be made” (p. 7). Pennington also provided some guidelines for an effective needs assessment process. The process should help practitioners understand the needs being assessed, be clear about its task, plan for the implementation of the study, and identify how the results will be used before a study is initiated. The process starts from an informed base and proceeds in logical and sequential steps to plan, implement, report, and make use of the data from the investigation.

Reviere et al. (1996) defined needs assessment as “A systematic and ongoing process of providing usable and useful information about the needs of the target population—to those who can and will utilize it to make judgments about policy and programs” (p. 6). According to these authors, needs assessment is a form of applied research that extends beyond data collection and analysis to utilization of the findings. It is a population-specific, systemically focused, empirically based, and outcome-oriented

practice.

Witkin and Altschuld (1995) provided a broader and more practical definition. They suggested that needs assessments are useful and rational approaches to determine discrepancies (needs), examine their nature and causes, and set criteria or priorities for allocating resources and for developing new programs or improving the existing programs or services to meet or ameliorate the needs. They define needs assessment as “A systematic set of procedures undertaken for the purpose of setting priorities and making decisions about program or organizational improvement and allocation of resources. The priorities are based on identified needs” (p. 4). They further elaborated on the components of this definition as follows:

An NA is a systematic approach that progresses through a defined series of phases. It gathers data by means of established procedures and methods designed for specific purposes. The kinds and scope of methods are selected to fit the purposes and context of the NA. NA sets priorities and determines criteria for solutions so that planners and managers can make defensible decisions. NA leads to action that will improve programs, services, organizational structure and operations, or a combination of these elements. NA sets criteria for determining how best to allocate available money, people, facilities, and other resources (p. 4).

Needs Assessment Models

Various needs assessment models have been suggested and implemented with varying success (Leigh, Watkins, Platt, & Kaufman, 2000). Here, two of the most comprehensive models, which are particularly relevant to educational settings, will be discussed briefly. These models are proposed by McKillip (1987) and Witkin and Altschuld (1995).

McKillip (1987) proposed a model with five phases for conducting needs assessments. The first phase includes identification of the users and uses. Knowing about

the users and uses of the needs assessment is very important, as it helps the researcher determine the boundaries of study in various dimensions (target population, data resources, data collection methods, etc.). Lenning (1980) also suggested that if the results of needs assessment are intended to have practical impact, “The users of the needs assessment results (whether instructors, curriculum developers, program administrator, or program support staff) must be precisely identified early in the assessment planning process, prior to conducting the study” (p. 21). Two key questions that should be answered in this phase are who the people/organizations are that the needs assessment is attempting to inform and what purposes are intended to be accomplished by the needs assessment.

The second phase includes identification and description of the target population and service environments (context). The selection of the data sources (who supplies the need information) along with data collection methods (how that information is collected) depends in part on the target population. Therefore, it is important to explain at the earliest stages of the study exactly whose needs are concerned (Lenning, 1980). Moreover, Witkin and Altschuld (1995) suggested that needs assessment studies “are shaped by and take their characteristics from their specific contexts” (p. 5). As also pointed out by Reviere et al. (1996), needs assessment studies are not carried out in a vacuum, but in an institution, organization, or community that may have its own political, economic, or social values, opportunities, or constraints. These multiple forces must be specified and taken into account at the beginning of the study as they may play important roles in later stages.

The third phase includes identification and description of needs along with possible solutions. Needs identification should include information on desired outcomes, current outcomes, and type and magnitude of the need. Such information should be collected from various sources, but the focus should be on the primary target group—the group whose needs are concerned (Lenning, 1980; Witkin & Altschuld, 1995). Besides using multiple sources, multiple data collection methods should be used so as to increase accuracy and to eliminate any possibility bias. Also, certain methods tend to attract more response from some groups than others.

There are three important factors that need to be considered while identifying solutions: cost, impact, and feasibility (McKillip, 1987). Cost analysis takes place in three steps. First, a time frame is specified to implement the solutions, then the possible required resources that address the identified needs during the specified time frame are determined, and finally the cost of each of the recourses is analyzed. Impacts of the solutions are hard to estimate because of scarcity of reliable and valid information. The researcher should benefit from all the available information and from solutions developed for similar needs. Feasibility of solutions also closely relate to the time. The time needed to arrange, deliver, and adapt the proposed solutions within the existing system or organizational structure is an important factor in evaluating the feasibility of the solutions. While some solutions fit into the system without much effort and time, others might require reorganization of the staff structure and routine (which in turn might require lots of time and resources).

The fourth phase includes the assessment of identified needs and solutions. This is

the stage where the researcher makes evaluative judgments about the identified needs and respective solutions in terms of their importance to the target population and relevance to the mission and experiences of the context of organization. This is the most critical and most complicated stage, as it requires evaluation and meaningful integration of multiple need indicators for use in decision making. Especially since the difficulty of the integration task increases parallel to the increase in the number of information sources used to identify needs. It is most likely for a needs assessment to produce consistent results when the information presented is simple and comes from one source. However, the likelihood of producing biased and inconsistent results increases when evaluative judgments require refining multidimensional information coming from several different sources. As a general rule, McKillip (1987) has suggested evaluating identified needs against explicit, appropriate, and generally agreed-upon criteria in order to turn a needs assessment into a useful instrument for decision making. Moreover, the researcher should not underestimate the importance of value judgments, both in identification and evaluation of needs and their respective solutions.

The final phase includes communication of the needs assessment results to the decision makers, users, and other relevant audiences. Hobbs (1987) stated that “Regardless of how carefully done and methodologically sound an [assessment] effort may be, its value is limited if it fails to influence policy and/or allocation decisions, either changing or rationalizing them” (p. 24). Communication of the results is as important as other needs assessment steps because it will determine if and how the results will affect decisions (Carter, 1996; McKillip, 1987). Reivere et al. (1996) pointed out that needs

assessment findings are often treated as ends in themselves rather than as essential means to an end. They argue that utilization of the needs assessment results depend as much on the accessibility of the results as on the quality and validity of the data obtained.

The basic rule in communicating the results is that the mode and the content of the communication should fit the interest of the audience (McKillip, 1987). Reivere et al. (1996) suggested that “useful implementation is not facilitated by a presentation of statistical findings that is not linked to the lives of the individuals involved and that fails to demonstrate policy and practical implications” (p. 11). Also important is that results of the study should not be imposed on an institution as a sole basis for action. Rather, it should be considered in the light of the role of the institution, available resources, and probable impact on existing programs (Nickens, Purga, & Noriega, 1980).

When talking about the needs assessment process as a whole, McKillip (1987) notified the reader that while his description of the needs assessment process implies an orderly and incremental process, in reality the needs assessment practice is an iterative and satisfying one where the cycle of decision, data collection, and data analysis continues until the researcher and other stakeholders reach the judgment that no further cycles are necessary.

Similar to the plan proposed by McKillip (1987), Witkin and Altschuld (1995) proposed a three-phase plan for assessing needs. The initial phase is called the preassessment phase. The activities performed in the preassessment phase involve investigation of what is already known about the needs of the target group; the determination of the focus and scope of the needs assessment; identification of the system

boundaries and potential sources of data; and gaining commitment for the later stages of the needs assessment, including the use of the results for program planning and implementation. Moreover, information gathered in the preassessment phase provides the basis for determining the most appropriate kinds of data-collection methods for the assessment.

The second phase involves the main assessment activities. These activities were performed in five steps. Based on the findings from the initial phase, the target group and the system boundaries are specified as clearly as possible in the first step. The second step involves collection of data about the need areas determined in the initial phase, determination of the current state of each need area, comparison of the current state with the desired (vision) state to determine the magnitude of each need, and formulation of need statements. In the third step, the needs are prioritized based on the criticality of each need. In the fourth step, casual factors—both inside and outside the system—are analyzed. The key question is, Why have the needs occurred or persisted? In the fifth step, all need data along with casual factors were synthesized for each need area to identify the factors within system control and those not within the system control.

The third phase of the plan involves postassessment activities. In this phase, priorities and criteria are set for solutions, alternative solutions are weighed, an action plan for implementation of solutions is formulated and communicated to decision makers and other stakeholders. Moreover, the total quality of the needs assessment is evaluated in this phase.

Methodological Considerations in Needs Assessment

As in any research endeavor, collecting valid and reliable data is one of the most essential components of a needs assessment study (Lenning, 1980). Therefore, special attention should be given to the choice of data sources and data collection methods.

Berkowitz (1996a) suggested that there are two main sources of needs assessment data: primary and secondary data. Primary data refers to first-hand information gathered from the target population or relevant others specifically for the purposes of the research project at hand. Secondary data, on the other hand, refers to already existing information previously gathered by some other person or organization, often for purposes other than or broader than those of assessing the particular need or needs of the specific target population. The most common sources of secondary data are U.S. censuses, reports by governmental agencies, service utilization records, etc.

Both types of data have their strengths and weaknesses; often, both tend to supplement each other. Secondary data is particularly useful in the earlier, exploratory stages of the needs assessment process and can provide useful evidence in identifying the needs area. In some cases they also have predictive value (Berkowitz, 1996a).

Conducting a preliminary investigation into existing records and databases will help the researcher gain “a better handle on what further information they should gather to document the needs and where they are likely to find it” (Witkin & Altschuld, 1995, p. 127).

Compared to primary data, secondary data is often inexpensive and requires less time because it eliminates the time and cost required for data collection (Berkowitz,

1996a). However, certain considerations should be taken into account when using secondary data in a needs assessment project. There is a possibility of losing “control over precision of definition of relevant variables because the data are not gathered expressly to suit the purposes of the needs assessment at hand” (Berkowitz, p. 16). Before deciding if and how to use secondary data in a needs assessment study, it is vital to consider whether or not the secondary data of interest is easily accessible, how closely the data fits the purposes of the research project at hand, how the sampling of the original study was drawn, and how the variables of interest were defined in the original study (Berkowitz, 1996a; Lenning, 1980). Based on these considerations, it might be necessary to make adjustments or modifications in secondary data to make it fit into the research project. Often these adjustments themselves cost time and money.

Primary data enables effective linking of data collection methods with the purposes and specific requirement of the study. It allows the researcher to decide on how best to collect which information and from whom (Berkowitz, 1996a). However, primary data gathering is often cost and labor intensive and requires more time. Therefore, before deciding to use primary data in a needs assessment study, it is vital “to weigh the costs, time, and labor requirements against the ‘value added’ gained by acquiring greater control over the definition and execution of the effort” (Berkowitz, p. 16).

Secondary data can be gathered and analyzed through social-indicator analysis and/or service-use analysis. Social indicators are aggregate statistical measures about important characteristics and historical trends of a social situation or group, which were tracked over a period of time often by governmental agencies (McKillip, 1987). Social

indicators can be in both quantitative and qualitative form, but quantitative social indicators predominate. Witkin and Altschuld (1995) noted three types of useful information that social indicators can provide in needs assessment studies. First, they contain facts about the current condition of a group or services delivered to the group. Second, some of them include implied or actual standards or norms so that discrepancy between current and desired conditions can be derived. Third, social indicators that include valid trends over a period of time can also provide useful information on which to base predictions about possible future needs. Although social indicators are useful in describing populations and can be used as “proxy measures” of needs, they have questionable validity as predictors of needs and do not show possible solutions (McKillip).

Service-use analysis is based on the assumption that patterns of utilization for one group indicate patterns for another. The service-use experiences of current programs or programs offered to a similar population can be useful in predicting possible areas of need for target population (McKillip, 1987). Depending on the area of investigation, intensive use of a service may indicate a need, while in another light, use of a service might be an indicator of another need. Moreover, in some cases, service use might not be directly related to need at all (McKillip). For instance, while intensive use of a health service in one community might indicate the need for more service, light use of the same health service in another community might indicate the need to inform the community about the availability of the health service.

Primary data can be gathered and analyzed using various quantitative and/or

qualitative methods. Quantitative data collection and analysis methods involve the collection, aggregation, and analysis of numeric data or data that can be expressed in numeric form. Qualitative data collection and analysis methods, on the other hand, concentrate on the development of in-depth information about problems and conditions through collecting, analyzing, and interpreting data and attributes of data as expressed in words rather than numbers. The most prevailing reason to employ qualitative methods in a needs assessment “is that they offer the opportunity to probe an issue or question in depth, and to explore respondents' views and perspectives in their own terms and framework of understanding” (Berkowitz, 1996b, p. 56).

Surveys are among the most popular and frequently used quantitative data collection approaches (Berkowitz, 1996b). Surveys can be administered one-to-one over the phone or face-to-face, or they can be self-administered through mail, internet, or during an event. When choosing among these three survey methods, one should consider the type of respondents, the length of the survey, and the types and depth of questions being asked in the survey. These three factors will determine the cost, time, and labor for administering the survey along with response rate and quality of the data (Nickens et al., 1980).

Self-administered surveys are best suited to collecting relatively straightforward, factual, and sensitive information (Nickens et al., 1980). Although they are the least expensive and most basic method of conducting a survey, they are often criticized for the low response rate and for the ease of misinterpretation. Online self-administered surveys have the advantage over other self-administered surveys in that transferring the aggregate

data into SPSS or spreadsheet files for analysis is very easy. However, online surveys are disadvantageous because including people with no internet or computer access into the sample is problematic.

Telephone surveys are more suitable for survey questions that explore attitudes, require professional judgments from respondents, and/or seek relatively detailed information (Berkowitz, 1996b; Nickens et al., 1980). Compared to self-administered surveys, telephone surveys produce higher response rates and more detailed and quality information. Moreover, due to the communication factor involved, telephone surveys allow the researcher to clarify questions and response patterns, thus reducing the possibility of respondents' misinterpretation of questions. However, they are more expensive, require more time, and are less suitable to collect sensitive questions. In-person surveys are the most useful survey methods for direct examination of participants' perceptions of unmet needs. Compared to self-administered and telephone surveys, they produce the highest response rates and the most detailed and quality information. Similar to the telephone surveys, there is a reduced possibility of misinterpretation. However, they are the most expensive and most labor-intensive survey methods (Berkowitz; Nickens et al.).

The most common qualitative methods used in needs assessment studies are intensive interviews and group techniques such as focus group interviews, nominal group interviews, and community forums (Witkin & Altschuld, 1995). Qualitative data collection can also be incorporated into surveys with the use of open-ended questions. While intensive interviews are often conducted in one-on-one interview situations, group

techniques use a group of people for discussion and/or idea exchange lead by one or more moderators. Both individual interviews and group methods use unstructured or open-ended instruments that concentrate on problems and solutions related to the need of the target population.

Rather than discussing each group process individually, a table that provides key attributes of each group process is provided in Appendix P. The most important feature of most group techniques is the opportunity to generate ideas through face-to-face interaction among various, and often knowledgeable and experienced, stakeholders. The interaction among participants provides a unique source of information and serves to check the validity of one another's reactions (McKillip, 1987). Group techniques allow for quicker data collection than individual interviews. However, observations are not independent because the expressed idea of a group member affects the others' responses. Witkin and Altschuld (1995) suggested that there are four main purposes of group techniques in needs assessment:

(a) to determine areas of concern to the community, (b) to identify frames of reference and perspectives held about needs, (c) to identify potential priorities of the community, and (d) to determine possible solutions and courses of action that might be acceptable to stakeholder groups. The group sessions usually result in a written product. (p. 154)

Berkowitz (1996b) and Lenning (1980) have suggest that primary data should be collected from various groups within the system or organization. Berkowitz noted that “there is never just one ‘true’ perspective on service needs,” and therefore, “an optimal needs assessment should examine need from more than one relevant group's perspective”

(p. 38). Lenning suggested that observations and judgments of relevant others can perhaps be more objective than those whose needs are being assessed.

The above methodological discussion may lead to question whether primary or secondary data—or whether quantitative or qualitative methods—are more important. Berkowitz (1996a) suggested that “There is no methodological reason to confine any needs assessment study to exclusive use of either secondary or primary data, or to restrict primary data collection to only quantitative or qualitative approaches” (p. 17). In regard to data source selection, Berkowitz notes that “Deciding on data sources requires evaluating the conceptual and functional fit between the data elements and analysis plans, as well as the practical feasibility of drawing on different sources for the purposes at hand” (p. 28). In regard to gathering primary data, Berkowitz (1996c) suggested combining quantitative and qualitative approaches. Wiley, Huelsman, and Hilgemann (cited in Berkowitz, 1996b) noted three methodological advantages of using a mixed method approach in a needs assessment:

(a) qualitative methods can be used in the same study both to prepare for the use of quantitative methods and to collect independent evidence on need, (b) using the two approaches simultaneously offers the possibility of convergence across maximally different methods [triangulation], and (c) qualitative analysis complemented concept mapping by providing valuable information about the context in which the mapping occurs. (p. 69)

Conclusion on Needs Assessment

The concept of need is complicated and definition is often dependant upon who defines it. This study finds the discrepancy definition useful and considers need as a discrepancy between a current set of circumstances and some changed or desirable set of circumstances. The changed or desired set of circumstances can be described as standards

defined by a relevant person or group using multiple objective criteria set by the community values. It is difficult to determine demonstrable needs through examination of a situation without comparison to a standard.

Deriving from above discussions, this study took the position that a needs assessment should describe the specific target population and the context, explicate awareness of the values, and extend beyond identification of needs to evaluation and integration of the need information to formulate feasible solutions that guide the decision-making process. In terms of data collection and analysis, this study used a mixed-method approach, combining both primary and secondary data and qualitative and quantitative methods.

Defining Learner Support

Learner support in distance education is a fairly broad concept, and there are wide variations in how people and institutions conceptualize and define it (Robinson, 1995; Rumble, 2000; Sewart, 1993). The terms “guidance,” “counseling,” “advising,” “support services,” “student support,” and “learner support” have all been used interchangeably throughout distance education literature to indicate a variety of activities, strategies, and administrative systems that are designed to support and facilitate the learning process (Simpson, 2002). Because of such variation in terms and definitions, it will be helpful to begin with an examination of how learner support has been conceptualized in the distance education literature in order to provide a focus and a conceptual framework for the current study.

Tait (2000) defined learner support:

The range of services both for individuals and students in groups which complement the [mass-produced] course materials or learning recourses that are uniform for all learners, and which are often perceived as the major offerings of institutions using ODL [Open and Distance Learning]. (p. 289)

He regarded learner support as a subsystem, distinguishing it from the most well-know element in distance education, which is the mass-production of instructional materials. The rationale for such a distinction, according to Tait (1995), is that the focus of the learner support is on individual learning of the student whether alone or in groups, whereas the focus of the mass-produced materials is on the mass of students.

Mills (2003) defined learner support as “the totality of the provision by an institution to support the learner, other than generic teaching materials produced by instructional designers/course producers” (p. 104). This definition also treats course material production and learner support as two distinct subsystems. Again, the underlying assumption for such a distinction is that learner support is designed to help an individual student learn from the mass-produced teaching material, whereas learning materials are produced uniformly for the mass of students. Mills made a distinction between individualized and generic learner support. Catalog such as “Frequently Asked Questions” and “Student Guide” are examples of generic material-based learner support, while one-on-one tutorial support (or feedback) is an example of individualized learner support.

Simpson (2002), like Tait and Mills, provided a system definition, describing learner support as all activities extending beyond the production and delivery of course materials that assist students in their studies. Simpson classified learner support into two main modes: academic (or tutorial) and nonacademic (or counseling) support. Academic

support provides students with cognitive and meta-cognitive tools and resources needed for improving their performance in relation to the stated course objectives. Tutoring and feedback are two major academic support services provided in most distance education systems. Nonacademic support addresses the affective and organizational development of students and assists them with their administrative needs such as registration and fee payment. Student orientation, personal counseling, and technical support are some common nonacademic support services available in most distance education systems.

Moore (2003) suggested that learner support constitutes one of the four subsystems in distance education. Design, production, and delivery of instructional materials constitute one subsystem. The process of instruction constitutes another subsystem where instructors interact with individual students to help them transform the mass-produced materials into personal knowledge. Activities under these two sets of subsystems are managed by an administrative subsystem. According to Moore, these three subsystems are not enough to make a distance education system run perfectly at all times for all learners. Therefore, a fourth subsystem, the learner support subsystem, is necessary as a “back-up safety net” for the individual student who encounters unexpected and/or idiosyncratic difficulties that can not be anticipated by course designers, instructors, and administrators all the time (p.141).

Thorpe (2003) observed that with the advent of online technologies and computer-based programs, ODL institutions are integrating more and more online learning practices into their programs, and the distinction between learner support and course production is slowly blurring. Therefore, she recognizes the need for redefining

the learner support in such a way that we can conceptualize it with less focus on system implications and more on identifying the functional essence of what distinguishes it from other elements of distance education. Therefore, instead of a systemic approach, she takes a functional approach and defines learner support as “all those elements [of distance education] capable of responding to a known learner or group of learners, before, during, and after the learning process” (p. 201). With this definition, Thorpe recognized that the key function of the learner support is its responsiveness to a known learner or group of learners.

Robinson (1995) defined learner support in terms of its components. He observed that learner support has three important components: “The *elements* that constitute the system; *configuration* of these elements; and the *interaction* between these elements and the learners, which creates its dynamics” (p. 223). Feedback, tutoring, assessment, personal contact between learners and support agents, peer contact, study centers, library resources, and materials (student handbooks etc.) developed to guide students throughout their studies are the most-known elements of learner support. According to Robinson, learner support systems vary among distance education providers based on how these elements are configured as well as the level, intensity, and function of the interaction.

Reid (1995) suggested that there are two distinctive approaches to learner support in distance education: compensatory support services and complementary support services. The former approach views learner support as an add-on to instructional materials and other learning experiences, while the latter views it as an integral component of the entire teaching/learning process. Compensatory support services are

reactive in nature, activated when there is a learner support problem presented in the system. Complementary support services are more robust, flexible, and learner-centered in the sense that these services are available all the time for all students and their use is determined by the individual student based on his/her academic, emotional, and/or situational needs.

To summarize, at the broadest level, the terms “learner support” and “student support” are used in distance education literature to include a variety of activities, strategies, and administrative systems to support individual student before, during, and after the learning process. This case study takes this broad view of learner support and considers that support services should be complementary rather than compensatory.

Rationale for Learner Support

The importance of learner support in distance education has been discussed from various points of view. The mostly cited benefit of learner support is its positive effect on the issue of student retention (Paul, 1988; Simpson, 2002). While it has been well-established that student retention in distance education is a multivariate issue involving various interrelated factors and variables (Garland, 1993; Morgan & Tam, 1999), there is some evidence to suggest that learner support can play a significant role in assisting learners to persist (Potter, 1998). Mills (2003) argued that “a greater emphasis on more focused learner support could have the more lasting impact on retention rates if approached in a holistic manner and integrated fully into the learning process” (p. 106).

The value of learner support has also been discussed in relation to the trend towards a more consumer-oriented approach to education, where education is considered

as a commodity to be consumed and students as customers of services (teaching and learning services) and products (course materials) (Lentell, 2003; Rumble, 2000; Tait, 2003). With the proliferation of for-profit distance education providers, students, as customers, now have more choices from which to choose. In order to become a competitor in such a competitive education marketplace, institutions have to meet the needs and expectations of learners so that they can attract more students (Tait, 1995; Rumble). Support services have a central role in meeting the unique and changing needs of the learners and, therefore, might add a competitive edge to distance institutions when implemented effectively (Mills, 2003). In fact, it's the quality of learner support services "which provides the competitive edge as more and more learning materials become available from a wide range of providers" (Mills, p. 112).

Marketing—another aspect of the consumer oriented approach to education—can also be promoted by learner support. Mills (2003) suggested that feedback from customers is one of the major driving forces in marketing, and also that collecting valuable feedback from customers requires a medium that encourages customers to interact with the company. He argued that in distance education settings, support services can serve for that purpose. The increased interaction between support personnel and students through a well-designed learner support system can produce valuable feedback from learners about the program or, more specifically, about the course. Such feedback can be used by course designers or administrative personnel so as to improve the quality of the courses or administrative processes, which in turn might have a positive impact on recruitment. In fact, based on his personal experience, Mills argued that this is already

happening in British Open University.

Another valuable aspect of learner support is that it can contribute to the realization of the very basic premise of distance education, which is widening access and learning opportunities for those who were never able to participate in formal education due to improvised socioeconomic backgrounds, poverty, distant geographical settings, family/work commitments, and disabilities of different kinds (Mills, 2003). The challenge that comes with the widening of access is that an increasing number of less-experienced, less-motivated, and more socially and economically disadvantaged students will be participating in distance education programs (Sewart, 1993; Mills). Educators and practitioners suggest that learner support has a major role to play here, as these are learner groups who need more individual support to cope with the difficulty of returning back to formal education with possibly less motivation and less educational experience (Kenworth, 2003; Mills, 2003; Potter, 1998; Sewart, 1993).

While learner support affords economic and social advantages for distance institutions, viewing learner support only in terms of its economic and social benefits overshadows the critical role of learner support in the academic success of learners (Brindley, 1995). Moreover, such a view is problematic in the sense that it shifts the focus of learner support from assisting current students towards academic achievement to attracting more new students (Brindley; Axelson, 2007).

Tait (2000) recognized the need to expand the view of learner support beyond the systemic and administrative processes. He offered a functional characterization of learner support that recognizes the pedagogic and motivational value of support services as well.

He observed that learner support has three primary functions: cognitive, affective, and systemic. Cognitive support refers to facilitation of learning through mediation of standard and uniform elements of course materials for individual students. Affective support refers to establishment of a supportive learning environment that increases students' commitment and self-esteem. Systemic support refers to establishment of administrative processes and information management systems that are effective, transparent, and user friendly. According to Tait, these functions are both necessary and interrelated. For example, in an institution that does not provide affective support, students may feel isolated and drop out. This is more likely to occur no matter how qualified the systemic and cognitive support tools are.

Distance education theories also recognize the pedagogic and motivational value of learner support. Garrison (1989) observed that students need various forms of support to attain true control of the learning process. He argued that learner control is not only concerned with independence (freedom of choice about the place, time, pace, and methods of the learning), but also with the learner's proficiency (ability and willingness to learn independently, and availability of human and/or non-human support to guide and facilitate learning). He argues that "When intellectual and emotional support and guidance are needed, control cannot be achieved by simply granting independence and freedom" (p. 25). True control is achieved only when a balance among independence, proficiency, and support is found.

In his theory of distance education, also known as "guided deductive conversation" or "empathy approach," Holmberg (1989, 1995) observes that motivation,

study pleasure, feelings of belonging, and empathy between students and those representing the distance organization are important components of effective distance teaching. Learner support (“counseling support,” as he referred), in Holmberg’s view, has the potential to establish such personal relations and empathy between teaching and learning parties and, therefore, to strengthen students’ study motivation and promote their emotional involvement and study pleasure. This view has been confirmed by Brindley (2000), who found a strong positive relation between institutionally provided social support and learner satisfaction, including intention to reenroll.

Issues and Barriers Distance Learners Face

In any educational setting, learners can face various kinds of issues and barriers that can prevent their cognitive and affective involvement in the learning process. Distance education is no exception. Indeed, intensity and frequency of learning problems usually multiply when the learning takes place at a distance in isolation from the instructor and other students (Galusha, 1997). Nonetheless, there is some evidence to suggest that among problems distance learners encounter, some are within the power of the institution to remove through different support services (Morgan & Tam, 1999; Paul, 1988). This further suggests that identifying support services that can assist learners to overcome these problems requires an investigation of these problems in the first place.

Moore (2003) proposed a framework to classify learner support problems presented in distance education settings. Accordingly, there are three kinds of learner support problems. First are the student generated problems, usually stemming from the adult lifestyle, which prevent students from behaving according to the expectations or

requirements of the distance course. Difficulty in meeting financial obligations or inability to complete an assignment by the due date as a result of employment duties, family crises, or illnesses are the most common cases encountered by distance learners. Second are institution generated problems, usually arising from malfunctions in the administrative system such as failure in delivering course materials on time or untimely notification of test results. Third are emotional problems, which are difficult to identify because students usually present these problems as external ones. A student may not explain, or even recognize, “his or her insecurity in the student role, defensiveness against the kinds of personal change that usually accompanies the learning, need for reassurance, and need for dependence on authority” (p. 142). While these emotions are comparatively easy to identify and overcome in a face-to-face classroom environment, it is difficult to identify them in distance education settings, and they present great difficulty for learners in sustaining motivation in the isolation of the distance environment.

Potter (1997) suggested that issues and barriers encountered by distance learners can be explained by various factors. He classified these factors under three main categories: personal, pedagogical (learning), and institutional factors. Personal factors are those concerning the individual’s psychological and physical environment. The learner’s self-esteem, motivation, belief about the value of education, prior educational experience, family commitments, and work requirements are some of the factors that fall into this category. Pedagogical factors are those that are related to teaching and learning elements such as course content, instructor(s), and other learner(s). Factors that fall into this

category are the learner's conception of knowledge, his/her orientation and interest in learning, the structure of the course, the practical value of the course, and the availability of the learning resources, academic assistance, interaction, and feedback. Institutional factors are those that directly involve the institution. Included in this category are availability, quality, suitability, and timeliness of information about admission, registration, and other administrative components, and the way the institution communicates this information through orientation programs and counseling and advising of various kinds. Potter argues that either one simple factor or a complex interplay of various factors can be the source of an issue encountered by distance learners.

In a study of barriers to student persistence in distance education, Morgan and Tam (1999) found that distance learners take numerous factors into consideration before they decide whether to persist in a distance course or program. They reported four types of factors: situational, institutional, dispositional, and epistemological factors. Situational factors are those arising from a student's particular life circumstances, such as change in employment situation or marital status. Institutional factors are difficulties that students experience with the institution, such as limited support services, insufficient or delayed feedback, or inflexible course structures. Dispositional factors are personal problems affecting the student's persistence behavior, such as their motivation, confidence, and learning styles. Epistemological factors are obstacles caused by disciplinary content, such as the lack of prerequisite knowledge and of personal interest about the content.

Many distance educators recognize that without adequate support, distance

learners who run into these issues are most prone to delay completion of their studies or to completely drop out of the program (Moore, 2003; Rowntree, 1992). Therefore, a learner support system that continuously evaluates the needs of the learners in relation to these factors should be in place to identify and overcome problems before and after learners face them (Tait, 1995).

Conceptual Frameworks for Learner Support

The literature indicates that there are several factors that should be taken into account when planning a learner support system in distance education settings (Brindley, 1995; Tait, 2000). In fact, it is because of this plurality of factors that there is enormous variation in how student support systems are organized and administered in distance education (Reid, 1995; Robinson, 1995; Sewart, 1993; Tait, 1995). Based on their review of 107 articles on learner support, Dillon and Blanchard (1991) concluded that types of necessary support services in each institution vary according to interrelationships among the needs of the learners, the requirements of the content or course, the institutional context, and selected technology or media to deliver support services.

Tait (1995) attested to this variation by arguing that “social, cultural, economic and technological issues provide a range of factors in planning student support which ensure that each institution has a unique task, and no general schemes can be drawn up on an international or even national basis” (p. 236). Sewart (1993) followed the same line of reasoning and argued that a learner support system can only be conceived in relation to the country and context in which it is set and, therefore, while it is possible to transfer between distance institutions the elements that make up course production, the same can

not be said for learner support services. Based on this argument, he proposed a framework that suggests that learner support services should do the following:

1. Be constructed in the context of almost infinite needs of the clients.
2. Be dependent on the educational ethos of the region and the institution.
3. Be dependent on the dispersal of the student body, elements of recourse and the curriculum or product of the course production subsystem.
4. Be dependent on the generic differences in the student body which it has been set up to serve (p. 11).

Brindley and Paul (2004) also proposed a framework that suggests effective learner support in distance settings should do the following:

1. Personalize the learning process so as to be responsive to different individuals and groups (rather than relying on fixed elements such as course syllabus).
2. Encourage and facilitate interaction among and between student(s), faculty, tutor, institutional support person and academic content.
3. Exist to further the goals of a particular institution and serve the needs of its learners within its specific context.
4. Both facilitate learning within courses and address issues of student skill and personal development.
5. Evolve continuously to accommodate new learner populations, educational developments, economic conditions, technological advances, and findings from research and evaluation.
6. Involve a high level of inter-functional collaboration and seamless to the learner (p. 45).

The most comprehensive framework for the development of support services in distance education settings is provided by Tait (2000). Tait observed that there are six core elements that institutions should take into account in planning support services for distance learners: characteristics of the students, the demands of academic programs and courses, the geographical environment, the technological infrastructure, the scale of the program, and the requirements of the management. These elements interact in complex

ways, with tradeoffs among them. What follows is a brief description of each element.

Student Characteristics

Meeting the needs and expectations of learners is a central concept in the development of effective learner support services (Clark, 2003; Tait, 1995). Identifying the needs and expectations of learners, however, requires an indepth examination of the learners' world: their needs, skills, motivations, and aspirations. In the very basic sense, it requires answering the challenging question of "who is the learner?" (Rumble, 2000). Therefore, many distance educators and practitioners acknowledge that characteristics of students in a distance education system play a central role in the development of learner support services in that system (Brindley & Paul, 2004; Rumble, 2000; Tait, 2000). It is central in the sense that all other elements included in the framework are partly related to student needs and capacities.

Tait (2000) suggested that the following are elements comprising the main relevant features of student identity: gender, age, employment or unemployment, disposable income, educational background, geographical situation, special needs (e.g. disability), language, ethnic and cultural characteristics, and communications technology connectedness. While this list is quite extensive and identification of these elements might provide useful information for the development of support services, it is not complete. As suggested by Rumble (2000), aggregated data about students' demographic information such as age, gender, socio-economic status, educational background, and marital status, as well as other surface information such as home circumstances and access to different media, reveal not much about the individual students themselves.

Evans (1994, cited in Rumble, 2000) suggested that individual students remain invisible and, therefore, in order to gain a complete understanding of their needs, one needs to talk to them individually.

Course or Program Demands

The special demands of a course or program is as important as the characteristics of the students in planning support services (Dillon & Blanchard, 1991; Tait, 2000).

While specific demands of a course or program are often shaped by a variety of factors, the most critical ones are those that are related to teaching and assessment. For instance, whether the assessment will be continuous through assignments or limited to midterms and finals is an important consideration. If it is going to be continuous, then further decisions are necessary about who is going to undertake it: core teachers or part-time tutors. If the assignment is going to be limited to midterms and finals, than further decisions are necessary about how to motivate students to continue their studies between the tests. Moreover, courses that require students to perform hands-on experiences or share their experiences with other students might necessitate face-to-face sections. At this point, further decisions are necessary about the place and frequency of face-to-face sessions.

Scale of the Program

Tait (2000) suggested that an institution offering a distance course or program of study with an enrollment of less than 100 students will need to employ different support strategies from the institution that accommodates more than 100,000 students. For instance, in a large-scale distance institution, students might well be scattered around the

country and, therefore, establishment of regional administrative offices and study centers might be necessary to address learner support issues locally.

Geographical Environment

Geographical considerations also play a crucial role in deciding the type and volume of support services (Sewart, 1993; Tait, 1995; Tait, 2000). The density of the population in rural and urban areas, and the availability and the cost of transportation all need to be considered when planning support services. For instance, an institution serving students in highly populated areas might provide tutorial support in regional centers, while another institution serving students in less-populated areas might find delivering tutorial support through radio and TV programs more affordable.

Moreover, cultural constraints—especially for women—on movement outside the home should be taken into account. For instance, Grace (1991) cited a study by Mandie-Filler that found that in Papua New Guinea, women who leave home, especially during evening hours, are considered at risk because they are regarded not only as unprotected, but also as unreliable. Women who have to leave their homes to attend an educational institution often undergo criticisms from their parents, which results largely from their parents' feelings of insecurity, jealousy, and fear.

Technological Infrastructure

The majority, if not all, of the learner support activities require interaction between the individual student and the other parties who provide support. With their capacity to support two-way communication, there is no doubt that new information and communication technologies will alter the way distance institutions deliver support

services—in most cases making some services more accessible and better quality (Kenworth, 2003). However, it is necessary to consider issues of accessibility when planning and developing learner support services to be delivered online. Dhanarajan (2001) noted that because of the cost associated with acquiring and renewing new technologies, the cost of learning is gradually shifting away from institution to individual learner. Therefore, consideration also needs to be given to the cost of having and maintaining computer technologies to access online support services. This holds particularly true in developing countries where the digital divide is most prevalent and participation rates are high from rural areas where there is no internet access.

Requirements of the Management

Each institution might have different organizational structure in place to manage support services. For instance, the center-periphery nature of large distance education systems often makes it necessary to deliver services away from any central location or campus, whereas small-scale distance education systems often provide services centrally. Moreover, each institution might have different financial priorities. Learner support activities are usually interactive and, therefore, the associated cost is rigidly volume sensitive (Daniel & Marquis, 1988). Tait (1995) suggested the following:

By their nature learner support services, which so closely relate to student numbers, and which represent the individualizing rather than the mass production side of the total operation, work reverse to the cost ratio of course materials which become cheaper per student the more students who are admitted (p. 238).

Therefore, institutions have to analyze whether including a service into their learner support system is financially feasible or not.

Summary

The literature review for this study suggests that there are many factors that contribute to the choice of a particular range of support services within a given institution (Brindley, 1995) and, therefore, there is no universal blueprint for the development of learner support services (Sewart, 1993; Tait, 2000). Conceptual frameworks provided above suggest that each institution needs to consider learner support services within the context of its own culture and value system. Moreover, such considerations should be based on continuous evaluation of the needs of the students, educational developments, economic conditions, technological advances, and findings from institutionally conducted and general research. This study takes the lead from conceptual frameworks identified above and aims to reveal support needs of OES students in relation to the educational ethos of Turkey and the Turkish OES.

CHAPTER III

METHODOLOGY

This chapter discusses the procedures followed in answering the research questions with the following elements in focus: research design, data collection methods and instruments, participants, and data analysis.

Research Design

The literature indicates that a learner support system can only be conceived in relation to the institutional values (Brindley, 1995; Sewart, 1993). The focus of this study was to gain an insight on support needs and preferences of distance learners studying at a specific institution, Turkish OES, which has its own culture and values. This was a task with considerable depth and complexity, and it required employment of a research design that would facilitate an in-depth examination of students' perceptions and expectations in relation to study context. To this end, this study utilized a needs assessment case study that used multiple data collection methods. Case studies are designed to bring out the details from the viewpoint of the participants by using multiple sources of data and, therefore, often take place "from the perspective of the participants involved in the phenomenon" (Gall, Gall, & Borg, 2003, p. 436). Its methods involve an intensive and in-depth study of the particularity and complexity of a phenomenon in its real-life context (Stake, 1995; Yin, 1989).

Data Collection Methods and Participants

A major strength of case study data collection is that the researcher can include a variety of data collection methods (Bassegy, 1999; Yin, 1989). In fact, the case study literature suggests using multiple methods of data collection to provide multiple measures of the same phenomenon so that the validity of case study findings can be enhanced through the process of triangulation (Yin). This study utilized a variety of data collection methods in order to answer a wide array of research questions and to overcome possible problems of construct validity through triangulation.

First, institutional artifacts were reviewed in order to gain a conceptual understanding of how support services function at the OES. Second, institutional representatives who were involved in providing support services at the OES were interviewed in order to find types of student support services available and in use by students. Third, a questionnaire based on staff interviews, literature review, and artifacts review was designed, pretested, and administered to OES students in order to probe OES students' perceptions and expectations of student support services. Fourth, sixteen students who participated in the questionnaire were selected and interviewed for the purpose of gaining an in-depth understanding of their perceptions as well as triangulating questionnaire data. The following sections provide a detailed discussion of each of these data collection and analysis methods. Appendix A outlines the sources of data and research methodologies used to collect and analyze data for each of the above-mentioned research questions.

Institutional Artifacts

Institutional artifacts were extremely important for my conceptual understanding of general operations of OES and its support services. Institutional artifacts especially served as the base data in providing a description of OES and its student support services. Institutional artifacts reviewed in this study were the OES website, registration handbook, textbooks, TV/radio programs, e-learning portal, program brochures, and Yunus Emre New Age Learning Portal (YENALP).

Interviews with OES Staff

Four OES representatives—one administrator from the central office, two tutors/instructors from regional tutoring centers, and one support personnel from a regional office—were interviewed to identify and describe available learner support services offered by OES. A purposeful sampling strategy was used in the selection of representatives. Namely, staff members who were experienced and well-informed regarding student support services provided to the distance learners were selected. The assistant dean and the coordinator of face-to-face counseling served as the gatekeepers and facilitated entree for the study. Interview participants were selected through these administrators' referrals. Interviews were conducted in person in participants' native language. Each interview lasted approximately 45 minutes and was digitally recorded with the permission of the interviewees. The recordings were later transcribed for data analysis purposes.

Student Questionnaire and Interviews

Yin (1989) suggested that case studies benefit from using two different sources of data: (1) data received from a smaller pool through interviews or observations, and (2) data received from a larger pool through surveys or questionnaires. The degree of convergence of the interview data (from a smaller sample) and survey data (from a larger sample) helps the researcher identify whether the phenomenon being studied is prevalent and consistent (Stake, 1995). Moreover, using multiple sources of data provide multiple measures of the same phenomenon and, therefore, can address the potential problems of construct validity (Gall et al., 2003; Yin). Based on these suggestions, this study utilized two different data collection methods to collect data from students. First, a questionnaire was designed and administered to a large sample of OES students. Second, in-depth follow-up interviews were conducted with a small sample of questionnaire participants. The following sections provide details for each data collection method.

Questionnaire Design

A questionnaire—based on review of literature, institutional artifacts, and staff interviews—was developed and administered to OES students to explore their experiences, perceptions, and expectations about support services at the OES (see Appendix B). The format of the questionnaire was adapted from the survey tool developed by Potter (1997) to investigate the need, importance, availability, and accessibility of learner support services in three bimode Canadian universities. This survey tool sufficiently covers the majority of support services offered in distance education institutions. Moreover, it was used with some modifications by Clark (2003)

and Collins (2007) in their dissertation studies. Nonetheless, I made necessary adjustments on Potter's survey tool to fit it into the institutional context of the current study.

The questionnaire included a broad array of questions to collect data about demographic information, students' goals and motivations for participating in the distance education program, perceptions about the importance and accessibility of support services, and types of support services students needed at different stages of their study. It also included open-ended questions to allow participants to comment on factors that are most assistive and most impeding in their distance learning experience, and also to allow them to offer suggestions to improve and/or expand the existing learner support services.

Addressing Validity and Reliability Issues

I followed two different strategies to increase the validity and reliability of the questionnaire. First, two institutional representatives knowledgeable about the provision and development of current learner support services reviewed the questionnaire. The purpose was to ensure that all OES-provided learner support services are accurately represented and included in the questionnaire. This process also ensured that the wording/language for each of the services was correct and could be easily understood by student participants. Moreover, two experts knowledgeable about Turkish distance education and fluent in Turkish and English languages reviewed the questionnaire in order to polish the translation of the instrument and make modifications. All the concerns noted by institutional representatives and experts were addressed.

Second, prior to administration of the questionnaire, it was pilot tested with a group of five OES students. Students who were working part-time at OES were invited by the coordinator of the face-to-face counseling services to take the pilot questionnaire in Eskisehir. The goal of pilot testing was twofold: to check the clarity of the instructions and questions, and to identify possible problems participants might face in understanding what kinds of answers were expected, or in providing answers to the questions as posed (Fink, 1995; Fowler, 1993). Moreover, with pilot testing, I was able to find out how the administration of the questionnaire works under realistic conditions (Fowler). In order to achieve the above-mentioned goal of pilot testing, at the end of the pilot testing I asked participants to provide their criticism and/or recommendations for improving the questionnaire. Students' feedback and recommendations were used to modify or validate the questions on the questionnaire.

Participants of Questionnaire

The original design included a criterion sampling strategy to select information-rich participants for in-depth analysis of student support issues central to the purposes of the study. Therefore, two criteria were set: Students were using face-to-face academic counseling service and were in their second year or more. It was assumed that second-year or upper-grade students using face-to-face academic counseling service would be more engaged in their learning process and, therefore, would be more experienced in terms of using support services. However, this design had to be modified to accommodate the practicalities of working in a field setting. Namely, the second criteria had to be removed to increase the participation. This modification allowed first-year

students to participate in the questionnaire.

While this change presented a possible threat to the validity of the findings, it enriched the research data by including the perspective of new students on student support services. Threat to the validity was possible especially for question number fourteen in the questionnaire, which asked students to specify the stage(s) throughout their study (pre-enrollment, starting courses/program, moving through courses/program, finishing courses/program) in which each support service was needed. There is a possibility that responses from the first-year students were vulnerable since they had not experienced all the stages at the time of data collection.

Administration of Questionnaire

After all necessary permissions to conduct the study were obtained from Anadolu University, the questionnaire was administered to OES students before, during, and after the face-to-face tutoring sessions in three different providences: Eskisehir, Kayseri, and Ankara. Out of 450 questionnaires distributed, 363 questionnaires were returned. Fifty-two of the returned questionnaires were incomplete and, therefore, discarded from the analysis. This resulted in an adjusted return rate of approximately 69%. Of the 311 usable questionnaires, 107 (34.4 %) were from Ankara, 108 (34.7 %) were from Eskisehir, and 96 (30.9 %) were from Kayseri.

Based on the assumption that attendance of face-to-face tutoring increases before midterm and final exams, the original design stated that the questionnaire would be administered close to midterm exams to increase the participation. However, around that time, OES administered its own institutional survey. Therefore, I had to wait several

weeks and administer the questionnaire after the exams. While this did not affect the participation rate much, it allowed some time between the surveys so that students were not frustrated by participating in two surveys in a short time period.

To encourage student participation and return rate, an incentive was offered to win one of three mp3 players in a drawing. Therefore, students who would like to enter the drawing were asked to complete a contact information form attached to the questionnaire. To protect the anonymity of the returned questionnaires, contact information forms were separated from the questionnaire and placed randomly in a different place. All three mp3 players were awarded after the data collection process was completed.

Follow-up Interviews with Students

Four group and three individual follow-up interviews were conducted with a total of sixteen students to gain information that might have not have become available through the questionnaire. Questionnaire participants were asked whether they want to participate in an interview at the end of the contact information form. Thirteen interview participants were randomly selected among questionnaire respondents who completed the contact information form and indicated that they wanted to participate in the interviews. With my permission, three of the randomly selected questionnaire respondents brought one of their friends to the group interviews. Appendix D outlines the demographic profile of the participants.

In order to provide some structure and consistency to interviews, an interview schedule was developed (see Appendix C). The schedule included the procedures to be

followed as well as the questions to be asked of the participants. Questions were clustered under the following four categories: motivations for attending OES, perceptions about the education offered by OES, experiences with the support services offered by OES, and suggestions for improving the current student support system.

A field pretest of the procedures and the questions on the interview schedule was performed with two OES students. An important function of the pretest was to test the usability of the interview schedule, both procedures and questions, from the interviewers' perspective. Particularly included in the pretesting process was requesting interviewers after each interview to evaluate each question with respect to whether or not (a) it was easy to read as worded, (b) interviewers understood the question in a consistent way, and (c) interviewers could answer the question accurately (Fowler, 2002).

The time and place of two group interviews and all the individual interviews were determined by the interviewees. For the other two group interviews, a common place known by all the participants was chosen. All interviews were conducted in person in the participants' native language. Interviews lasted anywhere between 20 and 45 minutes and were digitally recorded with the permission of the interviewees. The recordings were transcribed after the actual interviews for coding throughout the data analysis process.

Data Analysis

This case study produced both quantitative and qualitative data. Quantitative data produced by the questionnaire was analyzed using the SPSS 15.0 statistical software. Statistical computations of frequency distributions were performed to analyze participants' demographic profile. Question 13 in the questionnaire asked participants to

rate the importance and accessibility of 22 preidentified support services. A 5-point Likert-type scale of zero (unimportant/not accessible) to 4 (very important/highly accessible) was used for the ratings. Importance and accessibility mean scores were calculated for each support service to rank the services in terms of their importance and accessibility.

A need-gap analysis was performed to identify the gap between importance rating and accessibility rating for each support service. A needs-gap mean score was calculated for each support service by subtracting the accessibility rating of each case from the importance rating and calculating the mean of the differences.

Independent *t* tests and one-way ANOVA tests were performed to determine if significant differences might exist between/among student subgroups (gender, employment status, and years of study) in relation to the distribution of importance, accessibility, and needs-gap mean scores for each support service. An alpha level of 0.05 was used for all statistical tests. Once a significant difference was indicated by the one-way ANOVA, follow-up multiple comparison tests were used to evaluate pairwise differences. For support services with equal group variances, the Tukey HSD comparison test was used, and for support services without equal group variances, the Dunnett T3 comparison test was used.

In addition to importance and accessibility ratings, question 14 in the questionnaire asked students to specify the stage(s) throughout their study (preenrollment, starting courses/program, moving through courses/program, finishing courses/program) in which each support service was most needed. An option of “never

needed” was also given for students to indicate if they never needed the service. Students were given the option to specify as many stages as they wanted. Frequency distributions were calculated for each stage in SPSS to identify the support services most needed in each stage.

Qualitative data was obtained through open-ended questions included in the questionnaire and through follow-up student interviews. Qualitative data obtained through open-ended questions were analyzed (in Turkish) using the structural analysis technique (Gall et al., 2003), including the following essential subprocesses: coding and categorizing the factors/suggestions, and counting how many participants mentioned each factor/suggestion (enumeration). Assistive and hindering factors and participants’ suggestions were ranked in terms of the number of times they were mentioned.

Qualitative data produced through interviews were analyzed in NVivo8 qualitative analysis software using a constant comparison method. This qualitative analysis method combines inductive category coding with a simultaneous comparison of all the segments obtained from data (Maykut & Morehouse, 1994). After segmenting the data and inductively forming the initial categories, the researcher constantly compares the segments of data within and across categories. This process continues until the researcher reaches the point that no new phenomenon is available to form new categories or require expansion of the existing ones (Strauss & Corbin, 1990). This process helps the researcher clarify the meaning of each category and create a sharp distinction between categories (Gall et al., 2003).

Due to the excessive amount of time required to translate participants’ comments

on open-ended questions and interview transcriptions into English, data analysis was performed in Turkish. When data analysis was done, categories and narratives chosen to be used in reporting were translated into English.

Role as a Researcher

Being familiar with the culture of participants is vitally important for a researcher in conducting any kind of study because understanding cultural elements within a setting assists the researcher not only with gaining access to the setting but also with grasping the meaning of phenomenon as it is experienced by individuals in the setting. Moreover, gaining entry, making contacts, and establishing rapport with the research participants are important elements of collecting rich, reliable data. To this end, my educational background and experience in Turkey helped me a lot throughout the data collection and analysis.

However, there was a possibility that my knowledge of both the culture and institution may have influenced the responses. To eliminate any possible bias, I tried to avoid providing comments or offering opinions on any matter related to research questions, even when asked by the interviewees.

CHAPTER IV

RESULTS

This study was aimed at gaining a better understanding of support service needs and preferences of distance learners studying at the Turkish OES. In order to fulfill this aim, this study utilized both qualitative and quantitative data collection methods. Data collection took place in three separate phases. In the first phase, available learner support services were identified through investigations of institutional artifacts and interviews with the institutional representatives. In the second phase, a questionnaire was designed based on the findings of institutional artifact reviews and institutional representative interviews. The questionnaire was administered to OES students in order to collect data about their perceptions and expectations about various support services. In the third phase, individual and group follow-up interviews were conducted with several OES students who participated in the questionnaire to gain an in-depth understanding of participants' distance learning experience and to triangulate questionnaire data. The following sections elaborate the findings of each phase of the study.

Available Learner Support Services

Available learner support services were identified through investigations of institutional artifacts and through interviews with four institutional representatives. Institutional artifacts reviewed in this study were the OES website, registration handbook, textbooks, radio and TV programs, e-learning portal, and program brochures. The interview participants included two instructors, one program administrator, and one staff

member from local support office. Identified support services are clustered into three functional categories as suggested by Tait (2000): systemic (administrative), cognitive (academic), and affective (emotional). Support services falling into these categories are described in the following sections.

Cognitive Support Services

The core instructional element in most OES programs is printed self-study textbooks. Textbooks were codeveloped by a team of approximately 600 field experts from various universities and instructional designers from the Distance Education Design Unit of OES. Each student receives his/her textbooks from the local OES offices at the beginning of each school upon completion of the registration. OES students receive cognitive support of various types to supplement the printed course materials. These include face-to-face academic counseling, online academic counseling, TV programs, radio programs, e-learning portals, educational software, local computer labs and study centers, online practice tests, and communication with instructors.

Face-to-Face Academic Tutoring

Optional group-based face-to-face academic tutoring is provided by over 800 locally recruited academic personnel in 74 different locations during weekday nights and weekends. The tutoring service starts early in January and lasts until the end of May. This service is limited to ten courses and there are two hours of tutoring for each course per week. The courses are: Mathematics, Accountings, Introduction to Economics, Applications for Accounting, Statistics, Theory of Economics, Cost Accounting, Turkish Tax System, Financial Management, and English.

The coordinator of the face-to-face academic counseling services indicated that these courses were determined by a committee of faculty administrators. In their decision, the committee considered both the difficulty of the courses and the number of students who take those courses. In regard to rationale, the coordinator indicated that the primary purpose of this cognitive service was to complement and enhance students' learning from the textbooks through both learner-to-learner and learner-to-instructor interactions. However, one of the interviewed instructors stated that due to crowds in the classrooms, tutoring usually took place one-way without much interaction.

TV and Radio Programs

Television and radio programs are produced by the Educational Television Center (ETC). Over the course of the last three decades, the ETC has produced and revised approximately 5,200 TV and 400 radio programs. Over 500 academic personnel nationwide participated in the recordings of TV programs. The majority of the TV programs were produced in studios with a great majority being talking-head format.

Prerecorded TV programs are broadcasted nationwide on the Turkish Radio and Television Channel 4 (TRT-4) 24 weeks per year, 37 hours per week—a total of 888 hours per year. The programs are broadcasted every weekday between 10:00 am and 1:00 pm, and weekends between 6:30 pm and 9:30 pm throughout the academic year. Weekday programs are rebroadcasted between 11:30 pm and 12:30 am. The radio programs are broadcasted on TRT Radio 1 between 9:20 pm and 10:00 pm on Monday, Thursday, and Friday. Students are provided with a guide that lists the schedule of TV programs. The TV program schedule is also available on the OES web site.

Before midterm and final examinations, prerecorded TV programs are replaced with live, interactive programs, allowing students to ask questions through e-mail, fax, or the free 800 number. TV programs are also available in CD/DVD formats for a small fee. Students who are studying in the Western Europe Program receive TV programs in CD's for free.

E-learning Portal

The e-learning portal provides students with remote access to the majority of the instructional components in electronic format. The portal includes electronic textbooks (e-books), TV programs (e-television), course practice software (e-practice), practice exams (e-exams), audio books (e-audiobooks), and synchronous and asynchronous academic facilitation services (e-facilitator). Synchronous and asynchronous academic facilitation allows students to ask content-related questions to the subject matter experts. While asynchronous academic facilitation is available for more than 75 courses, synchronous academic facilitation is available only for the fourth-year courses offered by Faculties of Business Administration and Economics.

Interviews with staff revealed that the most-used academic component in the e-learning portal was practice tests (e-exam). The OES website reported that between May 2005 and November 2007, the e-learning portal received approximately one billion 250 million visits. Students utilized e-exam approximately 32 million times, e-practice 15 million times, e-textbook 9 million times, e-Television 4 million for times, and e-audiobook 900 thousand times.

Communication with Course Instructors

Communication with course instructors is possible in two different ways. One way of communication with course instructors is through face-to-face tutoring sessions. Yet, interviewed instructors stated that students who participated in face-to-face tutoring sessions could interact with course instructors but not at the desired level. Another way of communication with course instructors is through e-learning portal. As indicated earlier, the e-learning portal includes both synchronous and asynchronous academic facilitation services. These services allow students to ask content-related questions to the subject matter experts online both synchronously and asynchronously. Synchronous service is available only for fourth-year courses.

Educational Software

Interviews with the staff revealed that the majority of the learning components available in the e-learning portal had been offered as standalone educational software to students in CDs/DVDs for a small fee. At the time of data collection, the majority of them were still available, such as TV programs and practice software.

Local Computer Labs and Local Study Centers

Document reviews revealed that OES intended to install computer laboratories and study centers in or around the local offices for student use. A pilot project had been implemented in local OES offices in 10 different providences. The aim had been to encourage student use of educational software developed by OES and computer technologies. This had been part of the e-transformation process. However, due to

installation and maintenance cost involved, at the time of study, OES was not providing these services anymore.

Assessment

Students are assessed by multiple-choice tests with machine-scored answer sheets. There is one midterm and one final exam proctored mainly in local universities in collaboration with the central office and the regional offices. Midterm and final tests are administered in late March and early June, respectively. OES uses a traditional 100-point scale for grading. Midterm and final tests account for 30% and 70% of the final grade, respectively. A final grade of 50 is required to pass a course. Failing students are allowed to take a makeup test in early September.

Emotional Support Services

In regard to effective support services, the large numbers of student body enrolled in the OES programs (approaching one million) make it impractical for OES to provide individualized effective support services at the desired level. There is no individual counseling being offered by OES. Communication with other distance learners is mostly facilitated through face-to-face counseling courses. Another way of promoting social interaction among distance learners in OES is through theater shows and symphony orchestra concerts organized by Anadolu University in different cities. Although OES utilizes recent online technologies for instructional purposes, it was interesting to see that there was no online medium for students to communicate among themselves.

Communication of OES events takes place through a TV program called “News from our University.” The program has been broadcast on TV since 1998 to establish a

way of communication between the students and the OES. It is a 10-minute program broadcast every other week throughout the academic year and is aimed at notifying students about the happenings on the campus, enabling students to get to know their university and program better.

Administrative Support Services

Local Offices

A majority of the systemic services were provided through local OES offices, which are coordinated by the central office located in Eskisehir. Local offices provided several student services including handling new enrollments and registrations, distributing course materials (such as textbooks), issuing student status verification, postponing the military service of male students, issuing transcripts, issuing student ID cards, handling withdrawals, issuing diploma or substitute documents, and updating student information.

Help with Registration

The most important systemic service provided by the local offices is help with the registration process. Information about registration is also announced on the website, and a registration handbook is made available online for download. The registration handbook and a student handbook are also mailed to students after they are placed into OES. The registration handbook contains information related to registration procedures (both for new and former students) and dates, tuition, student ID cards, student credit, and distribution of books.

Internet Services

The primary source for communicating information of various kinds is the OES website. The website includes general information about OES, information about OES policies and regulations, information about OES programs, information about educational materials, the addresses and contact information of central office and local offices, and information about textbooks (updates, changes, etc.). Information about OES programs is available online through electronic program brochures posted on the website. Included in the program brochures is information about the aims of the program, admission requirements, academic calendar, local support offices, web-based services, exam centers, educational materials used, and program curriculum.

Most of the important and time-bound issues are announced under a section called “announcements.” Moreover, the website includes a “frequently asked question” section. This section addresses several questions related to registration, textbook acquisition, transferring to another program, examination procedures, policies and regulations on various issues, and enrollment and reenrollment procedures.

Students are also given opportunities to access the following information using the web bureau website: registration status, student status, grades, unofficial transcript, exam entrance information and cards, account balance, and a list of textbooks used in the courses. Moreover, the system allows students to update their addresses, telephone numbers, examination centers, and local offices online.

Technical Support

Technical support is provided through phone calls, online through the e-support

website, e-mail, or the mobile-learning guide available online. The e-support website allows students and instructors to submit questions about issues related to login, passwords, and access to the course content. A 70-page mobile learning guide includes a broad array of information about current mobile technologies, applications related to these technologies, how these technologies can be used for internet connection, and how these technologies might be used for e-learning solutions.

Distance Learning Orientation

There is no general orientation provided by the OES. However, a sixty-page registration and student handbook provided during the registration process includes a broad array of detailed information about registration, student services provided by the central office and local offices, student services provided on the internet, teaching and learning environments used by OES, the examination system, student rights, policies, and regulations.

Moreover, for almost all the learning environments, built-in user guides are included to inform students how to utilize them effectively. For instance, at the beginning of the textbooks, a couple pages of instructions are given explaining what each part of the textbook means and how to self-study from the textbooks effectively (see Appendix E). Similarly, a user guide is available for the e-learning portal, mobile-quest information service, and e-certificate program.

Mobile-Quest SMS Information Service

Mobile-quest SMS information service allow students to receive updated information about exam results, important registration dates, registration status, account

balance, TV program schedules, face-to-face counseling schedules, and their student status through SMS messages. While all the above-mentioned information is sent automatically, students are also able to request this information by sending a short SMS to service number 3926 with the available request code. This service is not free, though. For each message sent or received, one SMS fee is assessed to the student's mobile phone account.

Student Questionnaire

The questionnaire included a broad array of questions to collect data about participants' demographic information, their goals for attending OES, their perceptions about the importance and accessibility of available support services, their support service needs at different stages of their study, and how frequently they use certain academic resources or services. Open-ended questions asked participants to comment on factors that are most assistive and most impeding in their distance learning experience and to offer suggestions improving the existing learner support services.

Out of 450 questionnaires distributed to OES students before, during, and after the face-to-face tutoring sessions in three different providences, 363 questionnaires were returned. Fifty-two of the returned questionnaires were incomplete and, therefore, discarded from the analysis. This resulted in an adjusted return rate of approximately 69%. Of the 311 questionnaires analyzed, 107 (34.4 %) were from Ankara, 108 (34.7 %) were from Eskisehir, and 96 (30.9 %) were from Kayseri.

The following sections present the analyses of the questionnaire responses. Statistical analysis of the responses was performed using Statistical Package for Social

Sciences (SPSS) version 15.0. An alpha level of 0.05 was used for all statistical tests.

Due to the scarcity of data collected through open-ended questions, qualitative analysis was performed manually; no specific qualitative analysis software was used.

Demographics and Educational Background of Participants

Table 4 and Table 5 display data about participants' demographic profile and educational background, respectively. The following sections elaborate the data displayed on each table.

Age & Gender

Approximately 93% of the participants were age 25 or younger. The largest single age group was 18-21, accounting for 58.8% of the responses. The second largest single age group was 21-25, accounting for 33.8% of the responses. Only about 7% of the participants were over the age of 25. In terms of gender, more female students participated in the questionnaire than males: 57.9% to 42.1%, respectively.

Marital Status

Approximately 94% of the participants reported being single and 6% reported being married. Only one participant indicated to be divorced.

Employment Status

About one-third of the participants reported that they were currently employed. Approximately 69% of the employed participants were private employees, 15% were federal employees, and 16% were self-employed.

Table 4

Participants' Demographic Information

Variable	Frequency	%
<i>Gender (N = 311)</i>		
Female	180	57.9
Male	131	42.1
<i>Age (N = 311)</i>		
Younger than 18	2	0.6
18-21	183	58.8
22-25	105	33.8
26-30	12	3.9
31-35	5	1.6
36-40	3	1.0
41-45	1	0.3
<i>Marital status (N = 311)</i>		
Single	292	93.9
Married	18	5.8
Divorced	1	0.3
<i>Employment status (n = 309)</i>		
No	216	69.9
Yes	93	30.1

Table 5

Participants' Educational Background

Variable	Frequency	%
Highest level of education ($N = 311$)		
Completed high school	280	90.0
Pursuing undergraduate education	6	1.9
Completed undergraduate education	3	1.0
Completed graduate degree	1	0.3
Other	21	6.8
Planning to reenter the exam ($N = 311$)		
Yes	136	43.7
No	175	56.3
Years of study in OES ($N = 311$)		
1 st year	91	29.3
2 nd year	123	39.5
3 rd year	80	25.7
4 th year or more	17	5.5
Distance education experience ($N = 311$)		
Has some experience	16	5.1
No experience	295	94.9

Previous Education

When asked about their highest education attainment before enrolling in OES, 90% of the participants reported having a high school diploma. Six participants (1.9%) reported that they were working towards a bachelors' degree at the same time; three (1%) reported having a bachelors' degree, and one reported having a graduate degree. Approximately 7% of the participants reported that they had other educational attainment, which was an associate's degree.

Distance Education Experience

A majority of the participants (94.9%) reported that attending OES was their first distance education experience. Only 5.1% of the participants indicated that they had some sort of distance education experience.

Years of Study

Approximately 29% of the participants were freshman, 40% were sophomores, 26% were juniors and 6% were seniors. The number of senior participants was low because there was no face-to-face tutoring offered for fourth-year courses. Only those who were retaking certain lower-level classes participated in the questionnaire.

Willingness to Retake the University Entrance Exam

Participants were asked whether they are willing to retake the university entrance exam. Approximately 44 % indicated that they wanted to retake the university entrance exam.

Motivation for Participating in the OES

As illustrated in Table 6, the majority of participants (67.4%) reported that they attended OES to make a career. Another majority (59.9%) indicated that they attended OES because their university entrance examination scores were not high enough to enroll in traditional universities. Moreover, approximately one third of the participants (30.1%) reported that their motivation was to improve their overall literacy skills. Some participants (23%) attended OES because they had the flexibility of studying while working. Approximately one third of the male participants (32%) reported that they attended OES in order to postpone mandatory military service. Twelve participants reported that they had other reasons to attend OES.

Table 6

Participants' Motivation for Attending OES

Respondents' motivation	Responses	
	Frequency	%
It provides possibility of studying while working	71	23.0%
It is the best choice from the economical point of view	27	8.7%
Not able to attend another university (due to low exam score)	185	59.9%
To promote my salary through the degree that I will earn	27	8.7%
To postpone mandatory military service	42	13.6%
To have a student ID	39	12.6%
To gain a job	200	64.7%
To improve my overall literacy skills	93	30.1%
To gain knowledge on a topic that is of interest to me	62	20.1%
Other	12	3.9%
Total	758	245.3%

The most often-cited “other” reason was by female participants indicating that they attended OES due to their parents’ unwillingness to let them leave their home.

Assessments of Support Services

Question 13 in the questionnaire asked students to rate importance and accessibility of twenty-two preidentified support services. A 5-point Likert-type scale of zero (unimportant/not accessible) to 4 (very important/highly accessible) was used for the ratings. Importance and accessibility mean scores were calculated for each support service to rank the services in terms of their importance and accessibility. For the purpose of this study, a mean score of 3.00 or higher indicates a high level of importance/accessibility, a mean score of 2.00 to 2.99 indicates a medium level of importance/accessibility, and a mean score of 1.99 or less indicates a low level of importance/accessibility.

In addition to importance and accessibility ratings, a need-gap analysis was performed to identify the gap between importance rating and accessibility rating for each support service. A needs-gap mean score was calculated for each support service by subtracting the accessibility rating of each case from the importance rating and calculating the mean of the differences. For the purpose of this study, a needs-gap mean score of 1.00 or higher indicates a large needs gap, a needs-gap mean score of 0.50 to 0.99 indicates a moderate needs gap, and a needs-gap mean score of 0.49 or less indicates a small needs gap.

An independent *t* test and one-way ANOVA were performed for each support service to determine if significant differences might exist between/among student

subgroups (gender, employment status, and years of study) in relation to the distribution of importance, accessibility, and needs-gap mean scores. An alpha level of 0.05 was used for all statistical tests. Once a significant difference was indicated by the one-way ANOVA, follow-up multiple comparison tests was used to evaluate pairwise differences. For support services with equal group variances, Tukey HSD comparison test was used and for support services without equal group variances, Dunnett T3 comparison test was used.

Question 14 in the questionnaire asked students to specify the stage(s) throughout their study (preenrollment, starting courses/program, moving through courses/program, finishing courses/program) in which each support service was needed. An option of “never needed” was also given for students to indicate if they never needed the service. Students were given the option to specify as many stages as they want. Frequency distributions were calculated for each stage to identify the support services most needed in each stage. There is a possibility that responses from the first-year students were vulnerable since they had not experienced all the stages at the time of data collection. However, their responses were not excluded from the analysis.

Results of the data analysis are presented in the following sections using the functional support service categories suggested by Tait (2000). These categories are cognitive (academic), affective (emotional), and systemic (administrative).

Cognitive Support Services

Participants evaluated ten cognitive support services: local study centers, face-to-face academic counseling, online academic counseling, academic support through TV

programs, academic support through radio programs, educational software produced by OES, local computer labs for student use, e-learning portal, online practice questions, and communication with course instructor.

Importance. Table 7 displays importance mean scores for ten cognitive support services. Participants assigned the highest level of importance to face-to-face academic tutoring ($M = 3.44$, $SD = 0.74$) and online practice questions/tests ($M = 3.43$, $SD = 0.73$), and assigned the lowest level of importance to TV programs ($M = 1.98$, $SD = 1.18$) and radio programs ($M = 1.05$, $SD = 1.01$). As shown in Table 7, the rest of the cognitive services were given a medium level of importance.

Table 7

Participants' Ratings of Cognitive Support Services

Cognitive services	Importance		Accessibility		Needs gap	
	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>
Local study centers	295	2.64	296	1.80	293	0.85
Face-to-face counseling	309	3.44	310	2.21	309	1.23
Online counseling	305	2.23	303	2.35	303	-0.11
TV programs	311	1.98	311	2.16	311	-0.19
Radio programs	309	1.05	309	1.62	309	-0.57
Educational software	303	2.34	302	1.82	302	0.52
Local computer labs	306	2.18	305	1.30	305	0.87
E-learning portal	306	2.88	306	2.46	305	0.42
Online practice tests	310	3.43	311	2.47	310	0.95
Communication/instructor	308	2.87	308	1.54	308	1.33

An independent sample t test was performed for each academic support service to analyze the differences in importance mean scores between male and female students (see Appendix F). The test was significant for three services: face-to-face academic tutoring, $t(307) = 3.20, p < .005$; e-learning portal, $t(304) = 2.386, p < .05$; and online practice questions/tests, $t(308) = 2.89, p < .005$. Female students on the average attached significantly higher importance to these three academic support services than male students.

Moreover, an independent sample t -test was calculated to evaluate differences in importance mean scores between employed and nonemployed students for each of the ten academic support services (see Appendix G). The tests was significant for two services: local study centers, $t(150.56) = 3.27, p < .005$; and communication with course instructors, $t(304) = 2.63, p < .01$. Nonemployed students placed significantly more importance on two cognitive support services than employed students.

One-way ANOVA was also performed to analyze differences in importance mean scores among four student subgroups in terms of study time (see Appendix H). The test was significant for five academic support services: local study centers, $F(3, 291) = 3.798, p = .011$; online academic counseling, $F(3, 301) = 3.610, p = .045$; academic support through radio programs, $F(3, 305) = 4.169, p = .006$; educational software produced by OES, $F(3, 299) = 3.595, p = .031$; and local computer labs for student use, $F(3, 302) = 4.809, p = .029$. Post-hoc comparison tests indicated that first-year students ascribed significantly higher importance to local study centers, online academic counseling, radio programs, and local computer labs than third-year students. There were

no post-hoc differences found for the OES-provided educational software.

Accessibility. As illustrated in Table 7, half of the ten cognitive support services were perceived to have a medium level of accessibility, and the other halves were perceived to have a low level of accessibility (see Appendix I). Services that were assigned a low level of accessibility were local computer labs for student use ($M = 1.30$, $SD = 0.97$), communication with course instructors ($M = 1.54$, $SD = 0.95$), radio programs ($M = 1.62$, $SD = 0.95$), local study centers ($M = 1.80$, $SD = 0.95$), and educational software produced by OES ($M = 1.82$, $SD = 0.90$). Services that were assigned a medium level of accessibility were online practice questions and tests ($M = 2.46$, $SD = 0.95$), e-learning portal ($M = 2.47$, $SD = 0.92$), online academic counseling ($M = 2.35$, $SD = 0.93$), face-to-face academic counseling ($M = 2.21$, $SD = 1.04$), and TV programs ($M = 2.16$, $SD = 0.87$).

An independent sample t test was calculated to analyze the differences in accessibility mean scores between male and female students for each of the ten academic support services (see Appendix I). The test was significant for only one cognitive service: face-to-face academic tutoring, $t(308) = 2.433$, $p < .05$. Female students assigned more accessibility to this service than male students. Similarly, an independent sample t -test was calculated to analyze differences in accessibility mean scores between employed and nonemployed students for each cognitive support service (see Appendix J). The test was significant for only one cognitive service: local study centers, $t(292) = 3.029$, $p < .005$. Nonemployed students assigned more accessibility to local study centers than employed students.

A one-way ANOVA performed for each service analyzing the differences in accessibility mean scores between first-, second-, third-, and four-year students (see Appendix K). The test was not statistically significant for any of the service at the 0.05 level.

Needs-gap analysis. As shown in Table 7, a large needs gap was identified for two academic support services: communication with course instructors ($M = 1.33$, $SD = 1.24$) and face-to-face academic counseling services ($M = 1.23$, $SD = 1.10$). Online practice questions/tests ($M = 0.95$, $SD = 1.07$), local computer labs ($M = 0.87$, $SD = 1.50$), local study centers ($M = 0.85$, $SD = 1.31$), and OES-produced educational software ($M = 0.52$, $SD = 1.18$) were four cognitive services with a moderate needs gap. A negative needs-gap mean score was identified for three cognitive services as a result of participants' overall accessibility rating surpassing the overall importance ratings. These services are online academic counseling ($M = -0.11$, $SD = 1.20$), TV programs ($M = -0.19$, $SD = 1.18$), and radio programs ($M = -0.57$, $SD = 1.23$).

The results of an independent t test suggested no significant difference in needs-gap mean scores between male and female participants for any of the academic support services (see Appendix L). Likewise, no significant difference was found between employed and nonemployed participants (see Appendix M). A one-way ANOVA test revealed significant differences in needs-gap mean scores between first-, second-, third- and fourth-year participants for two cognitive services (see Appendix N): online academic counseling, $F(3, 299) = 3.580$, $p = .014$; and educational software produced by OES, $F(3, 298) = 3.159$, $p = .025$. Post-hoc analyses revealed that the needs gap for both

services was larger for the first-year participants than the third-year participants.

Time needed. Table 8 illustrates the stages of distance study in which each cognitive service was perceived to be needed by participants. Only a small number of participants indicated that they needed cognitive support before or during enrollment time. At least one-third of the participants indicated that except for radio programs and local computer labs, they needed all cognitive support services at the beginning of the program. Face-to-face counseling and communication with instructors were perceived to be the most-needed support services at this stage, with over one-half of the participants indicating the need for these services.

An overwhelming number of participants indicated the need for face-to-face

Table 8

Stages When Cognitive Support Services Are Needed

Cognitive services	Before enrollment		Beginning of program		Moving through program		End of program		Never needed	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Local study centers	21	7.1	128	43.5	108	36.7	22	7.5	112	38.1
Face-to-face counseling	16	5.2	217	70.0	288	92.9	46	14.8	9	2.9
Online counseling	15	4.9	103	33.8	127	41.6	20	6.6	140	45.9
TV programs	7	2.3	102	33.0	124	40.1	14	4.5	158	51.1
Radio programs	4	1.3	18	5.8	18	5.8	6	1.9	282	90.7
Educational software	15	4.9	106	34.8	121	39.7	21	6.9	136	44.6
Local computer labs	9	3.0	79	26.2	80	26.5	18	6.0	188	62.3
E-learning portal	16	5.2	151	49.2	196	63.8	49	16.0	65	21.2
Online practice tests	3	1.0	155	49.8	265	85.2	219	70.4	21	6.8
Communication/instructor	8	2.6	160	51.6	206	66.5	35	11.3	80	25.8

counseling (92.9%) and online practice tests (85.2%) while moving through the course or program. Additionally, the e-learning portal (63.8%) and communication with instructor (66.5 %) continued to be important support services needed at this stage.

Over 70% of the participants indicated that they needed online practice tests at the end of the course or program. This is most likely due to the participants' perception that the program ends before the final exam. Small percentages of participants indicated that they needed other cognitive support services at this stage.

An overwhelming number of students (90.7 %) expressed no need for radio programs. Moreover, over one-half of the participants expressed no need for TV programs (51.1%) and local computer labs (62.3%). Considering all the stages overall, participants indicated that online practice tests were important and needed from the beginning of the program to the end. In addition to online practice tests, face-to-face academic counseling and communication with the course instructor were two services needed most both at the beginning of the program and moving through the program.

Affective Support Services

Participants rated six affective support services: promoting students' self-confidence, promoting students' motivation, overcoming students' concerns about their education, promoting social interaction among OES students, and communication with other OES distance learners.

Importance. As displayed in Table 9, participants' ratings indicated that all affective and community support services were moderately important for them. While the most important affective support service was counseling services that promote student

Table 9

Participants' Ratings of Affective Support Services

Affective services	Importance		Accessibility		Needs gap	
	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>
Promoting students' self-confidence	310	2.67	310	1.01	310	1.65
Promoting students' motivation	310	2.90	311	0.96	310	1.93
Overcoming students' concerns	307	2.70	307	0.95	307	1.75
Information about OES activities	295	2.65	294	1.61	292	1.04
Promoting social interaction among students	309	2.43	307	1.03	307	1.41
Communication among students	303	2.22	303	1.30	303	0.92

motivation ($M = 2.90$, $SD = 0.97$), the least important service was communication among students ($M = 2.22$, $SD = 1.14$).

An independent sample t test revealed no significant differences between male and female participants with respect to importance ratings of the affective support services (see Appendix F). However, the test revealed significant differences between employed and nonemployed participants in their importance ratings of two affective support services. These services are information about OES activities, $t(291) = 2.05$, $p < .05$; and communication with other OES distance learners, $t(299) = 2.145$, $p < .05$. Nonemployed participants on average placed significantly higher importance on both services than employed participants did (see Appendix G).

A one-way ANOVA comparing the importance mean scores of each affective support services found significant differences between first-, second-, third-, and fourth-year participants for four affective support services (see Appendix H): counseling services that promote students' self-confidence, $F(3, 306) = 5.021$, $p = .002$; counseling

services that overcome students' concerns about their education, $F(3, 303) = 4.505, p = .002$; information about OES activities, $F(3, 291) = 2.931, p = .034$; and communication with other OES students, $F(3, 299) = 3.04, p = .029$.

Post-hoc comparison tests revealed that first-year participants on the average ($M = 2.97$) ascribed significantly higher importance to counseling services that promote students' self-confidence than second-year ($M = 2.63$) and fourth-year participants ($M = 2.24$). A similar trend was observed for counseling services that overcome students' concerns. First-year participants on the average ($M = 3.00$) ascribed significantly higher importance to this service than second-year ($M = 2.61$) and fourth-year participants ($M = 2.24$). Moreover, the post-hoc tests revealed that first-year participants on the average ($M = 2.84$) ascribed significantly higher importance to information about OES activities than fourth-year participants ($M = 2.00$). There were no post-hoc differences found for communication with other OES students.

Accessibility. As illustrated in Table 9, all affective support services received a low accessibility mean score (1.99 or less). The affective services that received the lowest accessibility mean scores were counseling services that promote students' motivation ($M = 0.96, SD = 0.84$) and counseling services that overcome students' concerns ($M = 0.95, SD = 0.80$). The most accessible affective service was information about OES activities ($M = 1.61, SD = 0.85$).

Statistical analysis suggested no significant differences between male and female participants with respect to accessibility ratings of the affective support services (see Appendix I). However, the test revealed significant differences between employed and

nonemployed participants in their accessibility ratings of one affective support services (see Appendix J), which was promoting social interaction among OES students, $t(217.79) = 2.217, p < .05$ (equal variance not assumed). Nonemployed participants on the average placed significantly higher accessibility to this service than employed participants.

A one-way ANOVA performed for each service analyzed the differences in accessibility mean scores between first-, second-, third-, and four-year students (see Appendix K). The test was not statistically significant for any of the service at the 0.05 level.

Needs-gap analysis. As shown in Table 9, a large needs gap was identified for all affective support services but communication with other OES students. The largest needs gap was identified for counseling services that promote student motivation ($M = 1.93, SD = 1.15$). The smallest needs gap was identified for communication with other OES distance learners ($M = 0.92, SD = 1.19$).

The t-test analysis suggested no significant difference in needs-gap mean scores between male and female participants for any of the affective support services (see Appendix L). However, an independent t test revealed significant differences in needs-gap mean scores between employed and nonemployed participants for one affective support service (see Appendix M), which was communication with other OES students, $t(299) = 2.439, p < .05$. The needs gap for this service was larger for nonemployed participants.

A one-way ANOVA test revealed significant differences in mean difference scores between first-, second-, third-, and fourth-year participants for four affective

services (see Appendix N): counseling services that promote self-confidence, $F(3, 306) = 4.025, p = .008$; counseling services that overcome educational concerns, $F(3, 303) = 3.822, p = .01$; information about OES activities, $F(3, 288) = 2.901, p = .035$; and communication with other OES students, $F(3, 299) = 4.673, p = .003$. Post-hoc analyses suggested that the needs gap for counseling services that overcome educational concerns was larger for first-year participants than for fourth-year participants. Moreover, the needs gap for counseling services that promote self-confidence and communication with other OES students was larger for first-year participants than for second-year and third-year participants. There were no post-hoc differences found for information about OES activities.

Time needed. Table 10 illustrates the stages of distance study in which each affective support service was perceived to be needed by participants. The most desired

Table 10

Stages When Affective Support Services Are Needed

Affective services	Before enrollment		Beginning of program		Moving through program		End of program		Never needed	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Promoting students' self-confidence	72	23.2	103	33.2	48	15.5	22	7.1	145	46.8
Promoting students' motivation	104	33.5	177	57.1	108	34.8	44	14.2	88	28.4
Overcoming students' concerns	63	20.4	112	36.2	99	32.0	42	13.6	111	35.9
Information about OES activities	25	8.3	120	40.0	80	26.7	20	6.7	156	52.0
Promote social interaction	104	35.7	120	41.2	69	23.7	28	9.6	75	25.8
Communication among students	92	30.0	122	39.7	37	12.1	15	4.9	121	39.4

affective services before or during enrollment time were counseling services that promote student motivation, activities to promote social interaction, and communication among OES students. Approximately one-third of the participants indicated the need for each of these services.

Over one third of the participants indicated that they needed each of the affective support services at the beginning of program. Counseling services that promote student motivation continued to be most desired affective service at this stage, with over half of the participants (57.1%) indicating the need for this service.

Overall affective support need declined while moving through the course or program. Only two affective services were perceived to be needed by 30% or more of the participants at this stage: counseling services that promote student motivation (34.8%) and counseling services that overcome educational concerns (32%).

Small percentages of participants indicated that they needed affective support at the end of the program. Counseling to promote student motivation continued to be the most desired affective service at this stage as well, but only 14.2% of the participants indicated the need for this service.

Approximately one half of the students expressed no need for information about OES activities (52%) and counseling services that promote students' self-confidence (46.8%). Considering all the stages overall, participants indicated that counseling services that promote student motivation were the most needed affective service in almost all stages. Moreover, participants' overall need for affective support declined from the beginning to the end of the program.

Systemic Support Services

Participants rated six systemic support services in the questionnaire: help with the admission/registration process, assistance in overcoming technical problems, orientation to the course media/delivery format of OES, administrative services provided at the local OES bureaus, administrative services provided on the internet, and mobile-quest information service.

Importance. As displayed in Table 11, except for mobile-quest information service, all the systemic services were perceived to be moderately important for participants. Participant ratings indicated that the most important systemic support service was orientation to course media/delivery format of OES ($M = 2.84$, $SD = 0.79$) and the least important systemic support service was mobile-quest information service ($M = 1.56$, $SD = 1.17$).

An independent sample t test revealed significant differences between male and female participants with respect to their importance ratings of one systemic support

Table 11

Participants' Ratings of Systemic Support Services

Systemic services	Importance		Accessibility		Needs gap	
	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>	<i>N</i>	<i>Mean</i>
Help on admission/registration	311	2.31	311	2.14	311	0.18
Help on technical problems	309	2.58	308	1.71	308	0.87
Orientation to OES	308	2.84	308	1.31	308	1.53
Local OES bureaus	311	2.68	310	2.36	310	0.33
Internet services	308	2.61	306	2.71	306	-0.09
Mobile-Quest services	301	1.56	297	2.12	297	-0.55

service (see Appendix F), which was orientation to the course media/delivery format of OES, $t(246.001) = 2.563$, $p < .05$. Female participants on average placed significantly higher importance on this service than male participants. The test also revealed significant differences between employed and nonemployed participants in their importance ratings of two systemic support services (see Appendix G): assistance in overcoming technical problems, $t(158.093) = 2.242$, $p < .05$; and administrative services provided on the internet, $t(304) = 2.153$, $p < .05$. Nonemployed participants on average placed significantly higher importance on both services than employed participants.

A one-way ANOVA comparing the importance mean scores of each systemic support services found significant differences between first-, second-, third-, and fourth-year participants for two systemic support services (see Appendix H): assistance in overcoming technical problems, $F(3, 305) = 3.771$, $p = .011$; and administrative services provided on the internet, $F(3, 304) = 2.691$, $p = .046$. Post-hoc comparison tests revealed that first-year participants on average ($M = 2.82$) ascribed significantly higher importance to assistance in overcoming technical problems than third-year participants ($M = 2.38$). There were no post-hoc differences found for communication with other OES students.

Accessibility. As illustrated in Table 11, two systemic support services were perceived to have a low level of accessibility, and the rest were perceived to have a medium level of accessibility. While the least accessible systemic support service was orientation to the course media/delivery format of OES ($M = 1.31$, $SD = 0.90$), the most accessible one was administrative services provided on the internet ($M = 2.71$, $SD = 0.91$).

An independent sample t test suggested no significant differences between male and female participants with respect to accessibility ratings of the systemic support services (see Appendix I). However, the test revealed significant differences between employed and nonemployed participants in their accessibility ratings of one systemic support service (see Appendix J), which was assistance in overcoming technical problems, $t(304) = 1.987, p < .05$. Nonemployed participants on average placed significantly higher accessibility on this service than employed participants.

A one-way ANOVA performed for each systemic service analyzed the differences in accessibility mean scores between first-, second-, third-, and fourth-year students (see Appendix K). The test was not statistically significant for any of the service at the 0.05 level.

Needs-gap analysis. As shown in Table 11, a large needs gap was identified for orientation to course media/delivery format of OES ($M = 1.53, SD = 1.00$), and a medium needs gap was identified for assistance in overcoming technical problems ($M = 0.87, SD = 1.05$). A negative mean difference was identified for two systemic services: administrative services provided on the internet ($M = -0.09, SD = 1.13$) and mobile-quest information service ($M = -0.55, SD = 1.33$).

The results of an independent t test suggested no significant difference in needs-gap mean scores between male and female participants (see Appendix L) and between employed and nonemployed participants (see Appendix M) for any of the systemic services. One-way ANOVA revealed significant differences in mean difference scores between first-, second-, third-, and fourth-year participants for one systemic service (see

Appendix N): assistance in overcoming technical problems, $F(3, 304) = 2.656, p = .049$.

However, there were no post-hoc differences found.

Time needed. Table 12 illustrates the stages of distance study in which each systemic support service was perceived to be needed by participants. The most desired systemic services before or during enrollment time were help with the admission/registration process (73%) and administrative services provided at the local OES bureaus (73.5%). Moreover, approximately one half of the participants (45.5%) indicated the need for orientation to the course media/delivery format of OES at this stage.

Table 12

Stages When Affective Support Services Are Needed

Services	Before enrollment		Beginning of program		Moving through program		End of program		Never needed	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Help on admission/registration	227	73.0	36	11.6	2	0.6	1	0.3	69	22.2
Help on technical problems	79	25.8	107	35.0	31	10.1	11	3.6	124	40.5
Orientation to OES	140	45.5	137	44.5	18	5.8	9	2.9	80	26.0
Local OES bureaus	228	73.5	169	54.5	96	31.0	119	38.4	23	7.4
Internet services	108	35.1	136	44.2	105	34.1	76	24.7	64	20.8
Mobile services	37	11.9	53	17.1	46	14.8	37	11.9	204	65.8

Administrative services provided by the local OES bureaus (54.5 %) and orientation to the delivery format (44.5 %) continued to be the most desired systemic services at the beginning of the course/program. Moreover, the need for administrative

services provided on the internet and help on technical problems increased to 44.2% and 35%, respectively, at this stage.

The most desired systemic services while moving through the program and also at the end of the program were administrative services provided on the internet and administrative services provided by the local OES bureaus. Only a small percentage of students indicated the need for other systemic services in these two stages.

Over one-half of the participants indicated no need for mobile-quest information services. Also, over one-third of the participants indicated no need for help with technical problems. Considering the stages overall, participants indicated that administrative services provided by the local OES bureaus and administrative services provided on the internet were two systemic services desired in all stages. The need for orientation to course media/delivery format and help with the technical problems decreased enormously after the beginning of the program.

Use of Academic Resources

Question 15 in the questionnaire asked participants to rate how frequently they used certain academic resources. A 5-point Likert-type scale using the following five categorical expressions was used: never, rarely, sometimes, often, and always. A numerical quantity is assigned to each category: never = 0, rarely = 1, sometimes = 2, often = 3, and always = 4. Frequencies for each category were tabulated, and a mean score was calculated for each academic resource.

Mean scores for academic resources are displayed in Table 13. The most frequently used service was face-to-face tutoring offered by OES ($M = 2.77$, $SD = 1.21$).

Table 13

Participants' Use of Academic Recourses

Academic resources	<i>N</i>	<i>M</i>	<i>SD</i>
Face-to-face tutoring offered by OES	310	2.77	1.21
Supplementary resources prepared by other people or institutions	311	2.64	1.33
Textbooks offered by OES	311	2.29	1.28
Online academic resources (through OES e-learning portal)	310	2.10	1.26
Supplementary tutoring offered by private institutions	310	1.16	1.32
TV programs offered by OES	311	0.99	1.02
Radio programs offered by OES	311	0.18	0.47

This is not surprising since the questionnaire was administered during the face-to-face tutoring sessions. However, quite surprisingly, the second most frequently used educational resource was supplementary educational resources prepared by other institutions such as text books, question banks, and so forth. ($M = 2.64$, $SD = 1.33$). Textbooks and online materials offered by OES were other educational resources with a frequency mean score of over 2.00. Radio and TV programs offered by OES were rated as the least frequently used educational resources with a frequency mean score of under 1.00.

An independent sample t-test was calculated to determine significant differences in frequency mean scores between male and female students (see Appendix O). The test was significant for three educational resources: textbooks offered by OES, $t(309) = 2.20$, $p < .05$; face-to-face tutoring offered by OES, $t(308) = 3.754$, $p < .001$; and supplementary materials prepared by other institutions, $t(257.52) = 2.069$, $p < .05$.

Female students on average used all three educational resources more frequently than male students.

In addition to the *t* test performed to investigate gender difference, an independent sample t-test was calculated to determine significant differences in frequency mean scores between employed and nonemployed participants (see Appendix O). The test was significant for three educational resources: face-to-face tutoring offered by OES, $t(306) = 3.381, p < .005$; supplementary resources prepared by other people or institutions, $t(307) = 2.787, p < .05$; and supplementary tutoring offered by private institutions $t(306) = 2.068, p < .05$. Employed students ($M = 2.42, SD = 1.25$) on average used face-to-face tutoring offered by OES less frequently than nonemployed students ($M = 2.93, SD = 1.17$). Similarly, employed students ($M = 2.79, SD = 1.28$) on average used supplementary resources prepared by other people or institutions less frequently than nonemployed students ($M = 2.33, SD = 1.39$). On the other hand, employed students ($M = 1.40, SD = 1.28$) on average used face-to-face tutoring offered by private institutions more frequently than nonemployed students ($M = 1.06, SD = 1.32$).

A one-way ANOVA was also conducted comparing significant differences in frequency mean scores between first-, second-, third-, and fourth-year students. The test was significant for three of the academic resources (see Appendix O): textbooks offered by OES, $F(3, 307) = 3.632, p = .013$; face-to-face tutoring offered by OES, $F(3, 306) = 9.382, p < .001$; and supplementary tutoring offered by private institutions, $F(3, 306) = 24.857, p < .001$. Post-hoc comparison tests were conducted to evaluate pair-wise differences among means. For an alpha level of 0.05, first-year students ($M = 2.65, SD =$

1.34) used OES-provided textbooks significantly more frequently than second-year students ($M = 2.09$, $SD = 1.25$). Moreover, first-year ($M = 2.87$, $SD = 1.27$) and second-year ($M = 3.08$, $SD = 0.99$) students used face-to-face tutoring offered by OES significantly more frequently than third-year ($M = 2.38$, $SD = 1.30$) and fourth-year ($M = 1.88$, $SD = 1.09$) students. On the contrary, third-year ($M = 2.04$, $SD = 0.97$) and fourth-year ($M = 0.88$) students used face-to-face tutoring offered by private institutions significantly more frequently than first-year ($M = 0.61$, $SD = 1.24$) and second-year ($M = 0.89$, $SD = 1.30$) students.

Open-Ended Questions

There were three open-ended questions included in the questionnaire to allow participants to elaborate on their distance learning experiences. The first and second questions asked participants to indicate the most assistive and most impeding factors in their distance learning experience, respectively. The third question asked participants to provide suggestions for improving the existing support mechanism. A total of 237 participants answered at least one of these questions.

Qualitative data obtained through these questions were analyzed using the structural analysis technique (reference), including the following essential subprocesses: coding and categorizing the factors/suggestions, and counting how many participants mentioned each factor/suggestion (enumeration).

Assistive and hindering factors and participants' suggestions were ranked in terms of the number of times they were mentioned. It is noteworthy that the majority of the comments made by participants were related to face-to-face academic tutoring. This

might be due to the fact that the questionnaire was administered before/during/after the face-to-face academic tutoring sessions.

Assistive Factors

Participants were asked to comment on factors that assist them most in their distance learning experience. A total of 223 participants answered this question. As outlined in Table 14, fourteen different assistive factors were identified from the participants' responses. These factors were classified under three categories: cognitive/academic, affective/motivational, and situational/personal.

Assistive factors that were mentioned most frequently fell into the cognitive/academic category, which accounts for approximately 86% of the total mentions. Within this category, OES face-to-face academic tutoring was the most frequently mentioned assistive factor (mentioned 105 times). Many participants indicated that it was impossible for them to learn everything just following the textbooks, and face-to-face academic tutoring helped them simplify and clarify the topics they could not understand from the text. Moreover, some participants indicated that face-to-face tutoring helped them stay on track. This was reflected well by one of the participants comments: "Not everyone has the self-study and time management skills to follow the courses on a regular basis. Face-to-face tutoring helps these students to stay on track."

The second and third most frequently mentioned assistive factors were private supplementary textbooks (mentioned 74 times) and private supplementary tutoring (mentioned 51 times), respectively. Participants indicated that supplementary textbooks by private institutions were assistive due to their brief presentation of subjects and

inclusion of more practice tests. Others reported that supplementary tutoring offered by private organizations was assistive because it took place in small classes where little

Table 14

Factors That Assist OES Students in Distance Learning Process

Factors	Participants mentioned	
	N	%
Academic factors		
OES face-to-face tutoring	105	27.20%
Private supplementary textbooks	84	21.76%
Private supplementary tutoring	51	13.21%
E-learning portal	26	6.74%
OES textbooks	25	6.48%
OES practice tests (online and books)	25	6.48%
TV programs	8	2.07%
Previous years' tests	8	2.07%
TOTAL	332	86.01%
Affective/motivational factors		
Self-confidence and motivation	9	2.33%
Support from family and friends	5	1.30%
Comfortable home study setting	3	0.78%
TOTAL	17	4.40%
Personal factors		
Self-commitment and individual efforts	17	4.40%
Frequent revisit and memorization of texts	12	3.11%
Time management skills	5	1.30%
Familiarity with the course content	3	0.78%
TOTAL	37	9.59%

distraction took place and more student-teacher interaction was possible. Moreover, it was reported that OES did not provide face-to-face tutoring for most upper-class courses and, therefore, those students who can afford it chose to supplement OES textbooks through private tutoring.

The e-learning portal, OES textbooks, and online practice tests were also mentioned as assistive academic factors. Each of them was mentioned approximately 25 times. Only eight participants indicated that TV programs and/or solving previous years' tests were helpful for them to be successful.

Personal factors were the second most frequently mentioned factors. Seventeen participants recognized the significance of self-commitment and individual efforts in their success. Twelve participants acknowledged the importance of frequently revisiting the course materials and memorization of important parts. Several participants reported that their time management skills and familiarity with the subject they studied were important factors in their success.

In addition to academic and personal factors, participants reported some affective factors that assisted them in their distance learning experience. Self-confidence and motivation were the most frequently mentioned affective factors. Participants also acknowledged the value of support from family and friends.

Impeding Factors

In response to the question regarding impediments to learning at a distance, 163 participants provided comments. Table 15 outlines the 25 different impeding factors identified from the participants' responses. These factors were classified under

Table 15

Factors That Impede OES Students in Distance Learning Process

Factors	Participants mentioned	
	N	%
Academic factors		
Lack of face-to-face tutoring for some courses	40	16.19%
Inefficient & uncomfortable classroom settings	39	15.79%
Inadequate and tutoring hours	22	8.91%
Inconvenient face-to-face tutoring hours & days	12	4.86%
Short time between midterm and final exams	11	4.45%
Exams take place in only two days	10	4.05%
OES textbooks are too detailed	9	3.64%
Midterm exam results published late	7	2.83%
Inadequate number of exams	4	1.62%
Reluctant and disrespectful instructor	3	1.21%
Inadequate resources for tests preparation	3	1.21%
TOTAL	160	64.78%
Affective/motivational factors		
Disregard from public and/or OES staff	15	6.07%
Learning at a distance	12	4.86%
Lack of motivation	9	3.64%
Lack of student counseling	8	3.24%
Lack of comfortable self-study setting	4	1.62%
TOTAL	48	19.43%
Personal factors		
Time management issues	20	8.10%

(table continues)

Factors	Participants mentioned	
	N	%
Personal issues (not specified)	5	2.02%
Financial problems	2	0.81%
Lack of academic background	2	0.81%
TOTAL	29	11.74%
Administrative factors		
Insufficient information about OES procedures	8	3.24%
Inexperienced and uninformed staff in local offices	2	0.81%
TOTAL	10	4.05%

four categories: cognitive/academic, affective/motivational, self/personal, and administrative.

Similar to the assistive factors, impeding factors that were mentioned most frequently fell into the cognitive/academic category, which accounts for approximately 65% of the total mentions. Interestingly enough, the majority of the academic impeding factors were related to face-to-face academic tutoring. The most frequently cited impeding factor was lack of face-to-face tutoring for all courses (mentioned 40 times). As indicated previously, OES provides face-to-face tutoring for the ten most common and relatively difficult courses.

The second most frequently cited impeding factor was inefficient and uncomfortable face-to-face tutoring settings (mentioned 39 times). Participants mentioned that classrooms are very crowded and noisy. Twenty-two participants commented that face-to-face tutoring hours were inadequate for some courses to cover the whole curriculum. Some indicated that due to time limitations, instructors either went

over some topics very quickly or skipped others. Twelve participants reported that face-to-face tutoring hours and/or days were inconvenient for them.

In addition to face-to-face academic tutoring, participants also considered the exam system as an impeding factor. Eleven participants complained about the short time interval (about two months) between midterm and final exams. Especially, several participants indicated that the midterm exam results were published late, and therefore they did not have time to plan for the final exam accordingly. Moreover, ten participants complained about sitting for all exams in one or two days. It was reported that sitting for five or more exams in two days was very stressful and mentally challenging for them. Another related factor was having just two exams for each course in one academic year. One participant commented, “Since there are only two exams, before each exam, units to study accumulate because of procrastination and it becomes stressful and harder to study.”

Ten participants indicated that OES textbooks are too detailed and daunting for self-study. Three participants complained that they were discouraged by those instructors who were reluctant and disrespectful. Three participants indicated that OES resources for tests preparation were inadequate. Two participants talked about lack of personal academic background for certain courses.

Affective impeding factors were mentioned 48 times, which accounts for approximately 19% of the total mentions. The most frequently mentioned factor was disregard from public and/or OES staff (mentioned 15 times). Several participants indicated that the public staff neither consider OES a formal education institution nor

regarded them as traditional students. According to them this reduced their motivation to continue. For instance, a student who had enrolled in OES with high hopes commented “After I realized public’s negative attitude towards OES students, I thought that I am here for no reason” Another related impeding factor, mentioned by nine participants, was lack of motivation (mentioned 12 times). Participants also indicated that it was hard for them to keep focused and motivated all the time. Other affective impeding factors mentioned were learning at a distance (mentioned 9 times), lack of student counseling (mentioned 8 times), and lack of a comfortable self-study setting (mentioned 4 times).

Personal impeding factors were mentioned 29 times, which accounts for approximately 11.7% of the total mentions. The factors most commonly mentioned were time management issues resulting from job obligations (mentioned 20 times), family commitments, and, most interestingly, preparation for the University Entrance Exam. Five participants indicated that they had personal issues but did not specify what they were. Another personal factor was lack of financial assistance, which was mentioned two times.

Only two administrative factors were mentioned as impeding. These were insufficient information about OES procedures (8 mentions) and inexperienced and uninformed staff in local offices (2 mentions). Two students noted that they lost one year just because they were misinformed by the OES staff.

Suggestions

The last open-ended question asked for suggestions to improve the current state of OES learner support services. A total of 196 participants answered the question. As

displayed in Table 16, participants offered 28 different suggestions. These suggestions were clustered into three categories: cognitive/academic, affective/motivational, and administrative.

Similar to assistive and hindering factors, a great majority of the suggestions were related to academic issues. Seventy-eight participants suggested receiving face-to-face tutoring for all courses. Fifty-eight participants called for more tutoring hours and days. Participants from Kayseri, where tutoring took place on Saturdays, especially requested different tutoring days for different courses instead of having them all in one day. Another student noted, “We need more tutoring hours so that we will have the opportunity to ask questions about the topics we don’t understand.” Twenty-four participants indicated the need to increase the quality of the classroom settings. The most common suggestion, in this regard, was to reduce the class size. Moreover, twenty-one participants called for more practice questions and tests to be solved by the instructors during tutoring sessions.

There were some other suggestions about face-to-face academic tutoring. For instance, participants from Eskisehir and Ankara, where tutoring took place in the evenings, asked for morning tutoring hours. Moreover, several participants complained about getting less than six months of tutoring for courses designed to be yearlong (tutoring starts early in January and ends late in May). Therefore, they requested tutoring to start early in the academic year. Also requested by several participants was effective, energetic, and concerned instructors who do not follow the textbook strictly.

Eleven participants recommended redesigning textbooks to make them short and

Table 16

Participants` Suggestions for Improvement

Suggestions	Participants mentioned	
	<i>N</i>	%
Academic improvements		
Face-to-face tutoring for all courses	78	24.3%
More face-to-face tutoring hours and days	58	18.0%
Less populated and more comfortable classrooms	27	8.4%
More practice tests and questions in the class	21	6.5%
Texts should be made brief and easy to understand	11	3.4%
Extending the time between midterm and final exam	9	2.8%
Face-to-face tutoring at different time of the day	9	2.8%
More academic & nonacademic resources	7	2.2%
Face-to-face tutoring should start early in the year	6	1.9%
Internship possibilities	5	1.6%
Better TV programs and at convenient times	5	1.6%
Exam results should be announced earlier	5	1.6%
More effective, willing, and concerned instructors	4	1.2%
More supplementary test books and CDs	3	0.9%
Teachers should not follow the textbook strictly	2	0.6%
Homework to keep students active throughout the year	2	0.6%
TOTAL	252	78.5%
Affective/motivational improvements		
Respect and care from OES staff and public	15	4.7%
More publicity about OES to inform public about OES	13	4.0%
More social activities	9	2.8%
More guidance services	7	2.2%
More emotional support	6	1.9%

(table continues)

Suggestions	Participants mentioned	
	<i>N</i>	%
Communication with other OES students	5	1.6%
TOTAL	55	17.1%
Administrative improvements		
Clear & accurate information about procedures	5	1.6%
A point of address (e-mail) to contact all the time	4	1.2%
Experienced and knowledgeable staff at the local offices	3	0.9%
Scholarship and dormitory opportunities	3	0.9%
Low registration fee	3	0.9%
TOTAL	18	5.4%

straightforward. Other academic components that needed to be improved, according to five participants, were TV programs. They asked for better TV programs at convenient times. Two noted that there were times that TV program hours coincided with that of face-to-face tutoring.

Participants offered two recommendations regarding OES examination system. Nine participants suggested extending the time between the midterm and final exam. Moreover, five participants suggested midterm exam results be announced earlier so that they could take action for the final exam as early as possible. Another related suggestion was to increase the number of supplementary practice test books and CDs.

Three more suggestions were made to increase academic opportunities. Nine participants asked for more academic and nonacademic resources such as ability to use the local universities' libraries and attend their conferences, seminars, and social activities. Two participants indicated their demand for internship possibilities. Two others

recommended that homework would be helpful to keep students active throughout the academic year.

Participants provided six different suggestions to improve their emotional state. Fifteen participants expressed their expectations of more respect and care from public and OES staff. In relation to this recommendation, thirteen participants suggested informing public about OES to eliminate their negative attitude against OES. For instance, one female participant noted, “Public needs to acknowledge that we are not any different than traditional students,” and she added, “To accomplish this, OES needs more publicity.” Several participants asked for more social activities (9 mentions), more guidance services (7 mentions), more emotional support (6 mentions), and the opportunity to communicate with other OES students (5 mentions).

Five suggestions were identified from participants’ responses about administrative improvements. Five participants asked for clear and accurate information about OES procedures. Specifically, one first-year participant commented that at the beginning of the year, he needed as much information as possible about registration, fees, due dates, tutoring dates and places, and so forth. Four participants indicated the need for a point of address (e-mail or phone) to contact all the time for any type of questions they had. Moreover, several participants asked for experienced and knowledgeable staff at the local offices (3 mentions), scholarship and dormitory opportunities (3 mentions), and lower registration fees (3 mentions).

Student Interviews

The last phase of the study consisted of individual and group interviews with OES students. Interviews were performed to gain an in-depth understanding of participants' distance learning experiences. It was also used for triangulating the data obtained from the questionnaire. A total of sixteen students participated in three individual and four group interviews. Appendix D outlines the demographic profile of participants.

Interviews were conducted in person in participants' native language (Turkish) and lasted anywhere between 20 minutes and 45 minutes.

An interview guide was developed to provide some structure and consistency to interviews (see Appendix C). The guide included several questions to investigate participants' motivations for attending OES, perceptions about the education offered by OES, their challenges and support service needs, and suggestions for improving the current student support services. Qualitative data produced through interviews were analyzed using the qualitative analysis software NVivo8. Constant comparison method—combining inductive category coding with a simultaneous comparison of all the segments obtained from data—was used for qualitative analysis. The following sections present the findings obtained through the analysis of interview data.

Goals and Motivations for Attending University/OES

An examination of OES students' goals for pursuing a higher education degree and their motivations for choosing OES to accomplish their goals were considered to be helpful in understanding their support needs better. In this regard, interview participants were asked to provide their goals for pursuing a higher education degree. Fourteen

participants indicated that their goals were to get a university degree for career and employment purposes. Two participants indicated that their goals were to improve their overall literacy skills. Considering that securing a job in Turkey almost necessitates holding a university diploma, the result was not quite surprising.

Participants were also asked why they chose OES to pursue their higher education. Responses to this question were consistent with the questionnaire findings. The most frequently cited reason was their inability to enroll in a traditional university due to their low scores in the national university entrance examination. Several participants indicated that it was their last choice to attend OES. For instance, one female participant said the following:

My ultimate goal was to become a Language Arts teacher. I took the university entrance exam several times; however, I could not score high enough in the exam to enter literature program in a traditional university. Finally, I gave up and decided to attend Financing program at OES, which has nothing to do with my original career goal.

Other than the insufficient exam scores, there were other reasons for the students' participation in OES. For instance, two employed participants stated that OES was the only choice for them to study while they were working. One male participant indicated that he was already studying in a traditional university, and the only way for him to get a second degree was through OES. Furthermore, one female participant pointed out that she was placed in a traditional university located in another city; however, her parents did not want her to leave the family.

Perceptions about the Education Offered by OES

Interview participants were asked what they knew about OES before their enrollment. Most participants indicated that they had little or no information. Only four participants reported that they had friends and/or relatives who were attending OES or graduated from OES and, therefore, they had the opportunity to get information from them. The majority of the participants who reported to have little or no information about OES indicated that they had some negative feelings about OES before their enrollment. According to them, their negative feelings were partially shaped by the public's negative perception of OES.

Participants were also asked what they thought about the education offered by OES. The responses were concentrated on two issues: quality and difficulty. With regards to quality, at the beginning of our conversations, their responses gave me an impression that they were satisfied with the overall quality of education offered by OES. However, as our conversations progressed, their responses reflected their inner conflicts over the quality of education. For instance, a tendency towards comparison of OES and traditional universities was identified in their responses. Their comparisons were based heavily on the number of face-to-face courses offered on campus. Almost all of the participants indicated that OES does not offer enough face-to-face tutoring compared to traditional universities.

Moreover, the majority of the participants directly or indirectly emphasized the advantages of traditional students, giving me an impression that they had a desire to be a traditional student. For instance, one participant reported that traditional students had

federal scholarship opportunities whereas OES students did not. Another participant pointed out the availability of on-campus social activities for traditional students. Yet another participant talked about the privilege given to graduates of traditional universities for employment in the private sector. She said hopelessly, “Private companies explicitly indicate on their job openings that they don’t want OES graduates to apply.”

In addition to the quality, participants talked about the difficulty of education provided by OES. Similar to quality, difficulty was measured through comparison of OES and traditional universities. Several participants believed that it was more difficult to study in OES than traditional universities. They argued that for a majority of the courses offered by OES, they had to study by themselves using the textbooks, whereas traditional students were usually surrounded by a safety net of professors and counselors who could readily provide the needed assistance.

When I asked participants about the public’s perception of OES, most of them reported that the public didn’t have accurate information about OES. They argued that the majority of the people in the society judged the quality of OES in relation the University Entrance Examination and, therefore, OES was considered an informal institution serving those high school graduates who had performed poorly on the annual national university entrance examinations. As one participant said, “In our society, OES is considered something like a certification program rather than a university.”

A related concern expressed by most participants was that due to the low admission requirements set forth by OES, the public perceived the status of OES students and the education offered by the OES as lower. As one participant reported, “Whenever I

told people that I was a student at OES, the responses were always along the lines of ‘Oh! Open Education Faculty!’ It was not hard to read the expression of underestimation on their face.” Another participant said faintheartedly, “When I first enrolled OES, I was very disappointed and unhappy. For a long time, I never mentioned others about it because I knew what their reaction would be.” Yet, both participants indicated that they were happy about being an OES student after they progressed in their study for a while.

Factors Preventing Students’ Cognitive and Affective Involvement

It was suggested in the literature that in order for a better understanding of distance learners’ support needs, it is necessary to examine issues and barriers that might contribute to their academic underachievement (Potter, 1997). Therefore, the interview participants were asked to elaborate on factors that might be impeding OES students’ cognitive and affective involvement in their learning. Impeding factors identified through interviews were almost similar to those identified through open-ended questions, though fewer factors were mentioned by the interview participants. Factors identified from interview responses were clustered into the same three categories: cognitive/academic, affective/motivational, and situational/personal. The following sections discuss factors identified in each category.

Cognitive/Academic Factors

Consistent with the findings of open-ended questions, interview participants expressed their concerns about the quantity and quality of face-to-face tutoring offered by OES. As reported in the previous section, almost all participants indicated that face-to-face tutoring offered by OES was not enough. Several participants complained that most

courses did not even have tutoring, and it was very hard for them to learn everything only from the textbooks. As one participant stated, “I need someone to help me when I don’t understand something on the textbooks.” Another participant said, “I know very few people who became successful only through studying from the texts. That is why most people attend supplementary tutoring in those courses for which OES does not provide tutoring.”

Participants also expressed their concerns about the quality of the face-to-face tutoring offered by OES. Several factors were mentioned in relation to quality. A majority of the participants reported that face-to-face tutoring was usually offered in amphitheatres and, therefore, classrooms were very crowded and noisy. A couple of the participants complained about instructors’ inability to control the classroom. Moreover, several participants expressed their concerns about some OES students attending face-to-face tutoring sessions not to benefit from tutoring, but rather to build bonds of friendship. They complained that these students “attending with different motivations” usually distracted the class.

Participants also complained that the texts were detailed and lengthy. One participant said, “Textbooks include too much unnecessary information. I don’t have time to read them all. Therefore, I am now using supplementary textbooks prepared by a private institution. They are short and easy to read.” A couple other participants also indicated that they were using supplementary textbooks instead. In fact, one of them humorously said, “Textbooks given by Open Education Faculty are now nothing more than a decoration for our shelves at home”.

Several participants complained about the course load in relation to the time given to complete all the courses. They indicated that they had approximately 6 months (December to May) to complete seven or eight courses. According to them, this caused lots of “cognitive load.”

Some participants talked about the difficulties caused by the examination system. The most frequently mentioned issue was having all the exams in just one weekend. One participant said,

I will spend my whole year studying to get a passing grade on the exam, but I don't know how my condition will be at that time. It is just two days. I might have personal problems, family issues, employment related issues or I might have anxiety at that time. Having all the exams for seven courses in just two days doubles my exam stress.

Two participants indicated that the results of midterm exams were published late, leaving not much time to plan for the final exam accordingly. One of them said, “There are seven courses I had to study. If I know my midterm results in advance, I will put more effort on those courses with low midterm grades.”

Affective/Motivational Factors

The public's negative attitude towards OES was determined as a motivational factor that impacts students' motivations and affective involvements. As indicated earlier several participants suggested that OES was considered by the public as an informal institution serving those high school graduates who have performed poorly on the annual national university entrance examinations. They frequently expressed their concerns about being considered a “formal student.” In fact, some of them disclosed how hard it

was for them to convince their parents about their student status, as indicated in the following two examples:

My father always asks me whether I am a student or not. I told him several times that I am studying in a university but I was never able to make him believe that. He questions me why I don't go to school than. It seems that I don't fit into the image of a formal student in his mind. I can not explain you how strange, discouraging, and emotionally disturbing that feeling is.

My parents and relatives don't believe that I am studying in a university because they don't consider the education offered by OES as formal education.According to them, one is university student only, and only if s/he is attending classes in the campus at certain times of every weekday.

In addition to the public's negative perception, instructors' negative attitude towards OES students (during face-to-face tutoring) was identified to impact OES students' motivation. A couple participants indicated that most of the instructors had committed themselves to teach. However, they experienced some instructors who were ignorant and reluctant. As one participant said, "The first day I went to face-to-face tutoring sessions, some of the professors gave me an impression that our participation in face-to-face tutoring is futile. I felt that I am there consuming their time. It was very discouraged."

Interestingly enough, several participants expressed that OES students were partially responsible for the public's current perception of OES. They argued that for several reasons, some OES students did not focus on their study after enrollment and this, in turn, created a negative image of OES and its students. For instance, one participant reported that some male students enrolled in OES just to postpone their mandatory military service. Another participant indicated that due to the intense pressure on high school graduates to get into a university, some students who were not able to enter

traditional universities chose OES just to seek refuge from public pressure. Yet another participant pointed out that there were many students in OES who did not have any future goals with regards to the education they received from OES. She said, “Some of them see OES as a leisure time activity. Others choose OES just to console themselves and their parents that they are going to university.” All three participants agreed that the majority of these students did not care about their education after enrollment.

Some participants expressed their concerns about their lack of personal contact with the institution. Participants indicated that lack of communication between students and the OES created a sense for them that they didn’t belong to an institution. This was clearly stated by a male participant:

We provided our phone numbers, home addresses, and e-mail addresses [with OES]. I would expect them to contact us through one the mediums and check with us whether we are doing alright or not. There seems to be no one wondering about our existence..... Sometimes I felt I don’t belong to somewhere..... This would not be the case in a traditional university. When someone does not attend a course or if s/he faces a problem related to that course, the course instructor can easily realize it and become part of the solution.

One female participant complained about the lack of personal counseling to help students about their problems including anxiety, depression, and stress. She said,

Apart from studying in OES, I am preparing for University Entrance Exam. Some times I got stuck in between... There were times that I had difficulty with consternating on my study. At one point, I decided to visit a psychiatrist to get counseling.

Situational/Personal Factors

Participants talked about three situational factors: time management, lack of academic background for certain courses, and lack of self-commitment. There were three

time management issues pointed out by the participants. One participant indicated that she was, at the same time, preparing for the national university entrance exam. Similarly, another participant stated that he was attending both OES and another university to get two degrees. Both participants expressed their difficulty of allocating time between two separate tasks. Moreover, two of the employed participants stated that it was very challenging for them to manage their times when they had lots of duties to perform in their workplaces. In regard to background knowledge, two participants indicated that they didn't have enough background in math and, therefore, they had difficulty with math-related courses.

Several participants, based on their observations of others, commented that some OES students lacked self-commitment. According to them their lack of self-commitment resulted from their ignorance of their study. Participants indicated that students didn't take their studies seriously. When I asked about the causes of their ignorance, one participant in group interviews replied, "Since admittance to OES is relatively easy, most students assume that studying at OES would be easy as well. They believe that they can succeed without putting much effort in it." Another participant in the group continued, "In fact, since it is all about your individual efforts, it is much harder than studying in a traditional university."

Moreover, one participant indicated that OES graduates were not preferred as much as traditional university graduates in the job market. He said,

When I first enrolled in OES, I thought that obtaining a degree from OES will not result in a substantial change in my career life. I was in the mood that 'no gain, no pain'. I did nothing more than sitting exams during my first year. As a result, I failed most of the courses.

Another participant added,

Some of the students who are not able to attend traditional programs that they are interested in choose OES programs as a last-resort alternative. However, there is only limited number of educational programs available in OES. Therefore, the programs of their choice do not necessarily relate to their interest. This really affects how much effort they placed into their education

Experience and Suggestions about Support Services

Participants' overall experiences showed some degree of dissatisfaction with most of the OES student support services, especially with the affective support. While they found some of the support services helpful, they made some suggestions to improve the overall quality of the support system. The majority of their suggestions overlapped the impeding factors discussed earlier.

In regard to cognitive support services, a majority of the participants indicated that three services were most helpful for their success: face-to-face academic counseling, the e-learning portal, and online practice questions. They believed that each of these cognitive support services contributed to their success in their study. However, they provided several criticisms about these services and made some suggestions to make these services more effective. Their suggestions were consistent with those provided by the questionnaire participants through open-ended questions.

As discussed earlier, participants complained about the quantity and quality of face-to-face counseling as an impeding factor. As part of their suggestions, they recommended extending the tutoring hours and days for currently available courses. It was indicated that only two hours of face-to-face tutoring per week for each course was insufficient. Course instructors were unable to cover the whole curriculum at the desired

level. Instructors either had to skip some parts of the curriculum or teach the others very quickly on the surface. As one female participant pointed out, “I have friends attending Erciyes University (a state university in Kayseri). They told me they spent several weeks on one of the subjects in the math course. Same subject was taught us in two hours.”

Participants also recommended that face-to-face tutoring should be provided for all the courses, not just for certain courses. Moreover, participants asked for less-populated classrooms for face-to-face tutoring. They indicated that the classrooms were very crowded and they were unable to hear the instructor because of noise. They also expressed the difficulty of classroom management that the instructors faced because of the crowd.

Participants’ overall experience with the e-learning portal was very positive. Several participants indicated that having most of the instructional elements (textbooks, TV programs, practice software, and practice questions) in one place aided them in studying more effectively. For instance, one participant said, “If I don’t understand something on the textbook, I check the TV programs and see it was covered there.” Another participant stated, “After I study a topic from the textbook, I take a practice test about that topic and assess my knowledge. It gives me an idea about how much I learned about the topic, whether I need to study more or not.”

However, some participants complained about not having access to internet or even not having a personal computer. They suggested at least TV programs should be provided in free VCDs together with the textbooks. Moreover, a couple participants stated that their internet connection had limited bandwidth and streaming TV program

videos created lots of bandwidth problem. One of them suggested that OES should work with internet providers to exclude the e-learning portal from bandwidth limit.

The online practice test (now included in the e-learning portal) was particularly important for almost all participants in preparing for the exams. All participants agreed that there should be more practice exams available online. In fact, a couple participants suggested that each textbook should be accompanied with a practice test book or CD.

Participants placed significant value on communication with course instructors. However, participants stated that they only had two options to communicate with the instructors. One of them was through face-to-face academic counseling and the other was through online counseling. Both of the mediums were reported as ineffective ways to communicate with the instructors. For instance, according to most participants, face-to-face academic counseling sessions were very crowded and they didn't even have the opportunity to ask questions when they didn't understand the subject being taught.

In regard to online counseling, one participant indicated that he had to wait about a week to get a response from the course facilitator/instructor. He suggested shorter response time. He said, "After a week I didn't even remember what I asked for. Also, the system does not notify you when your question is answered. After sometimes you even forget to check whether your question has been answered or not." Moreover, another participant complained about the difficulty of adding a math question with symbols to the discussion board.

Participants' comments revealed that TV and radio programs were not as important as those discussed above. Only a couple participants indicated that they are

regularly following the TV programs. One of them suggested that some programs were too old and needed to be updated because they were incompatible with continuously revised textbooks. A couple participants complained that the channel (TRT-4) broadcasting TV programs had low quality reception in their homes. One participant complained that her family had just one TV and she sometimes had to compete with other household members for the TV. Another participant suggested that OES should have its own TV, and TV programs should be on demand so that they could watch it when they were available to watch.

When asked about the affective support, all participants agreed that not enough support was provided for them to augment their affective involvement in their learning. As discussed in the previous section, participants reported several factors affecting their motivation. One of them was the public's mindset. Participants suggested that the public, including the employers, should be well-informed about OES to eliminate their negative perception. Moreover, they called for counseling services and social interaction among students. For instance, one participant said, "Education is not just about courses and exams. We need social activities to get rid our stress."

Participants' experience with systemic support services reflected both satisfaction and dissatisfaction. Participants who utilized the OES website were very satisfied with the abundance of information available to help them get started. However, some participants complained about conflicting information. Others called for precise and accurate information.

Some participants complained about staff in their local offices. One of them

stated, “When we go there [the local OES office] to get information about an issue, they automatically say it is included in our handbook and turn us down. For them everything is in our handbook.” Another complained about inconsistent information being provided by the local office staff. He said, “During registration, information available online or in the registration handbook was inconsistent with what the local office staff told me.” Both suggested that they needed well-informed and caring staff at the local offices.

Two participants indicated that information about policies and procedures were most needed when they first enrolled OES. One of them stated, “When I decided to enroll OES, I had no clue what to do.... There were plenty of information about registration, fees, how to get textbooks, etc. But I still needed some guidance.” Both recommended that an orientation program would have helped them overcome their frustrations at the very beginning.

It was interesting to note that even though the student handbook contained lots of information about the learning mediums and student services being offered by OES, some participants indicated that they did not know that some of the services were provided to them. For instance, one participant stated that he didn’t know that there was online academic counseling on the e-learning portal. Another participant indicated that he had no idea about what mobile-quest service was about.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter begins by summarizing the study through revisiting the purpose statement, research questions, methodology, and findings. Findings are interpreted in the light of research questions. It concludes with the implications of the study and suggestions for future research.

Review of the Study

During the last couple of decades, we have experienced a rapid, worldwide growth in the number of distance education institutions and distance course offerings. Collectively, these institutions have acted as a catalyst to improve access and equality of educational opportunity and to meet the increased demand for higher education, lifelong learning, and a well-skilled workforce. However, many issues related to their performance and quality remain largely unsettled (Dhanarajan, 2001).

While distance institutions invest most of their resources in course materials and instructional delivery systems, learner support has long remained an overlooked component of quality assurance efforts (Brindley, 1995; Moreland & Carnwell, 2000; Potter, 1998; Rumble, 2000). Provided that support services contribute to the academic, personal, and career development of students and assist them in overcoming the inherent difficulties of studying at a distance, we need more research studies guiding us in the development and implementation of quality learner support systems in distance education (LaPadula, 2003; Visser & Visser, 2000).

This case study aimed at gaining a better understanding of support service needs and preferences of distance learners studying at the Turkish OES. The research question formulated to guide this study was as follows: What are the support services that OES students perceive as needed in order to become successful distance learners? The following subquestions were formulated to guide the researcher in answering this broad research question:

1. Which support services are currently available to OES students?
2. What are the perceptions of OES students about the importance and accessibility of learner support services that they receive?
3. At which stages of the distance learning process do OES students need support most? And what particular services do they need?
4. What suggestions do OES students make about improving the existing learner support services at OES?

In order to answer these questions, the study utilized a needs assessment case study approach. A "mixed methods" approach that combines both qualitative and quantitative methods was used for collecting data. Data collection took place in three distinct phases. In the first phase of the study, available learner support services were identified through literature review, investigation of institutional artifacts, and interviews with the institutional representatives. Institutional artifacts reviewed for this study were the OES website, registration handbook, textbooks, TV/radio programs, e-learning portal, and program brochures. Interviews included one administrator from the central office, two instructors from regional tutoring centers, and one support personnel from a regional

administrative bureau. The data obtained in this phase of the study was of importance not only for answering the first research question, but also for the formulation of the questionnaire used in the second phase of the study.

In the second phase of the study, a questionnaire, which was designed based on the findings of the first phase, was administered to OES students. The questionnaire included a broad array of questions to collect data about participants' demographic information, their goals for attending OES, their perceptions about the importance and accessibility of available support services, their support service needs at different stages of their study, and how frequently they use certain academic resources or services. The questionnaire was distributed to OES students during and after the supplementary face-to-face tutoring sessions in three different providences: Eskisehir, Kayseri, and Ankara. Out of 450 questionnaires distributed, 363 questionnaires were returned. Fifty-two of the returned questionnaires were incomplete and, therefore, discarded from the analysis.

Quantitative data obtained through the questionnaire were analyzed using the SPSS. Statistical computations of frequency distributions were performed to analyze participants' demographic profile. A 5-point Likert-type scale of zero (unimportant/not accessible) to 4 (very important/highly accessible) was used for students' ratings of support services in terms of their importance and accessibility. Importance and accessibility mean scores were calculated for each support service to rank the services in terms of their importance and accessibility. Moreover, a need-gap analysis was performed to identify the gap between importance rating and accessibility rating for each support service. A needs-gap mean score was calculated for each support service by

subtracting the accessibility rating of each case from importance rating and calculating the mean of the differences.

An independent *t* test and one-way ANOVA were performed to determine if significant differences might exist between/among student subgroups (gender, employment status, and years of study) in relation to the distribution of importance, accessibility, and needs-gap mean scores for each support service. Quantitative data obtained from the questionnaire were used to answer the second and third questions.

Open-ended questions were included in the questionnaire to allow participants to comment on factors that are most assistive and most impeding in their distance learning experience, and also to allow them to offer suggestions improving the existing learner support services. A total of 237 participants answered at least one of these questions. Responses to the open-ended questions were analyzed using the structural analysis technique (reference), including the following essential subprocesses: coding and categorizing the factors/suggestions and counting how many participants mentioned each factor/suggestion (enumeration). The qualitative data obtained from the open-ended questions were used to answer the last question.

The last phase of the study included individual and group interviews with sixteen OES students. Interviews were conducted to gain an in-depth understanding of participants' distance learning experiences. The qualitative data produced through the interviews were analyzed using the qualitative analysis software NVivo8. Constant comparison method—combining inductive category coding with a simultaneous comparison of all the segments obtained from data—was used for qualitative analysis.

Data obtained from follow-up interviews were used to triangulate questionnaire data.

Participant Profile

An overwhelming majority (93%) of the questionnaire participants in this study were age 25 or younger. The largest single age group was 18-21 (59%). The second largest single age group was 21-25 (34%). Approximately 58% of the participants were female, 30% were employed, and only 6% were married. Out of 16 interview participants, all were age 25 or younger, nine were female, five were employed, and three were married.

In terms of motivations, the majority of questionnaire participants (67.4%) reported that they attended OES for career purposes. Moreover, another majority (60%) reported that they chose OES because their university entrance examination scores were not high enough to enroll in traditional universities. This implied that these participants would have attended a traditional university if they had scored well on the national university entrance examination. This was affirmed by participants' responses to the question regarding their willingness to retake the national university entrance exam. Approximately 44% of the participants expressed they wanted to retake the exam.

Other than these two motivations, approximately one-third of the participants (30%) attended OES to improve their overall literacy skills and one fourth (23%) attended because they had the flexibility of studying while working. Moreover, approximately one third of the male participants (32%) reported that they attended OES in order to postpone mandatory military service. Additionally, 12 participants reported that they had other reasons to attend OES. The most cited "other" reason was by female

participants indicating that they attended OES due to their parents' unwillingness to let them leave the home.

When asked about their prior education attainment, 90% of the participants reported having a high school diploma. In terms of study time, approximately 29% of the participants were freshman, 40% were sophomores, 26% were juniors and 6% were seniors. For the overwhelming majority of participants (94.9%), OES was their first distance learning experience.

Summary of the Findings and Conclusions

This study aimed to answer the following question: What are the learner support services that OES students perceive as needed in order to become successful distance learners? Four related subquestions were formulated to guide the researcher in answering this major research question. Findings were discussed below in the light of these subquestions.

Research Question One

Instruction in most OES programs was provided primarily through printed correspondence textbooks. OES students received cognitive support of various types to supplement the textbooks. These included face-to-face academic counseling, TV programs, radio programs, e-learning portal, online counseling, online practice tests, educational software, local computer labs, and local study centers.

Face-to-face tutoring services are provided by over 700 locally recruited academic personnel in 74 different locations during nights and weekends. While this service was

inferred as the second most important academic element, face-to-face academic counseling was limited to only the ten most common and relatively difficult courses.

Prerecorded TV and radio programs are broadcast nationwide on the Turkish Radio and Television (TRT-4) everyday. Moreover, before midterm and final examinations, prerecorded TV programs are replaced with live, interactive programs, allowing students to call an 800 number to ask questions. TV programs are also available in CD/DVD formats for a small fee. Students are provided with a guide that lists the schedule of TV programs. The TV program schedule is also available on the OES web site. Students who are studying in the Western Europe Program receive TV programs on CD for free.

Various academic services are offered online via the e-learning portal. The e-learning portal offers the following cognitive tools: electronic course books (e-books), video programs of the courses (e-television), practice software (e-practice), practice exams (e-exams), asynchronous academic counseling (e-facilitator), and audio books (e-audio books). More recently, synchronous e-counseling was made available for fourth-year courses at Faculties of Business Administration and Economics. Fourth-year students have the opportunity to interact with tutors online and ask subject matter related questions on certain hours of the week synchronously.

A document review revealed that before e-learning portal was launched, its components (e-books, e-television, e-exam, e-practice, and e-audiobooks) had been available in standalone CDs for a small fee. At the time of data collection, a majority of them were still available, such as TV programs and practice software. Moreover, OES

had installed computer laboratories and study centers in or around the local offices for student use. The aim had been to encourage student use of educational software developed by OES and computer technologies. However, due to installation and maintenance cost involved, at the time of study, OES was not providing these services anymore.

Communication with course instructors is possible in two different ways. One way of communication with a course instructor is through face-to-face tutoring sessions. Another way of communication with course instructors is through the e-learning portal. As indicated earlier the e-learning portal includes both synchronous and asynchronous academic facilitation services.

In regard to affective support services, the large number of students enrolled in the OES program (approaching one million) makes it impractical for OES to provide individualized affective support services at the desired level. Communication with other distance learners is mostly facilitated through face-to-face counseling courses. Another way of promoting social interaction among distance learners in OES is through theater shows and symphony orchestra concerts organized by Anadolu University in different cities. Although OES utilized recent online technologies for instructional purposes, it was interesting to find out that there is no online medium for students to communicate among themselves.

Communication of OES events takes place through a TV program called “News from Our University.” The program has been broadcast on TV since 1998 to establish communication between students and the OES. It is a 10-minute program broadcast every

other week throughout the academic year and is aimed at notifying students about the happenings on the campus, enabling students to get to know their university and program better.

A majority of the systemic services were provided through local OES offices, which were coordinated by the central office located in Eskisehir. Local offices provided several administrative services including registering students, distributing course materials (such as textbooks), issuing student verification, postponing the military service of male students, issuing transcripts, issuing student ID cards, withdrawals, issuing diploma or substitute documents, and updating student information.

Moreover, students were given opportunities to access the following information using the web-office website: registration status, student status, grades, unofficial transcript, exam entrance information and cards, account balance, and a list of textbooks. Moreover, the system allowed students to update their contact information online.

Information about registration was announced on the website and a registration handbook was made available online for download. The registration handbook and a student handbook were also mailed to students after they were placed into OES. The registration handbook contains information related to registration procedures (both for new and former students), registration dates, tuition, student ID cards, student credit, and book distribution.

The primary source for communicating information of various kinds was the OES website. The website includes general information about OES, information about policies and regulations, announcements, program brochures, information about educational

materials, and information about textbooks (updates, changes, etc.). Moreover, it included a FAQ section that included several questions related to registration, transferring to another program, reordering textbooks and DVDs, exams, exam entrance cards, etc.

Technical support is provided through phone calls or online through the e-support website. E-support aims to provide technical help to students and counselors/tutors about log in, password problems, and access to the course content. The Central Office has a phone number with eight lines. Also, students can get the address, telephone, and map of the local offices from the OES website.

Information about programs was provided through program brochures available online. Included in the program brochures was information about the aims of the program, admission requirements, exam centers, availability of educational materials on the e-learning portal, program curriculum, and local support offices and services.

There was no general orientation provided by the OES. However, for almost all the learning environments, built-in user guides were included to inform students how to utilize them effectively. For instance, at the beginning of the textbooks, a couple pages of instructions were given explaining what each part of the textbooks means and how to self-study from the textbooks effectively. Similarly, a user guide was available for the e-learning portal, mobile-quest information service, and e-certificate program.

Mobile-quest SMS information services allowed students to receive updated information about exam results, important dates, TV program hours, weekly schedules of face-to-face counseling hours, registration status, and student status.

Research Question Two

Questionnaire participants rated the importance and accessibility of twenty-two different support services. Out of twenty-two support services, ten were clustered into the cognitive support service category, six were clustered into the affective support service category, and six were clustered into the systemic support service category. Importance and accessibility of support services are discussed below for each category. Moreover, results of the needs-gap analysis—performed to identify the gap between the importance rating and accessibility ratings for each support service—were discussed.

Importance of Cognitive Services

Overall importance ratings of cognitive support services revealed that most cognitive support services were considered moderately important for the participants. Only two academic support services were of high importance for them. One was face-to-face academic counseling. This was not surprising given that the questionnaire was administered during face-to-face counseling hours. Most students would not attend face-to-face academic counseling sessions if they believed that it was not important for them. Moreover, there were some cultural elements identified in the literature that might better explain OES students' desire for more face-to-face academic counseling. For instance, in her dissertation study, Murphy (1990) investigated sociocultural influences on the attributions for success and failure among distance learners. She suggests that Turkey's roots in oral tradition, cultural emphasis on rote memorization, and the sacredness of text make learning independently with a textbook less suitable.

The other cognitive support service with a high level of importance was online

practice questions/tests. This might be due to the test-driven education system in Turkey. Turkish students usually tend to study exams through practice questions rather than through conceptual understanding of the subjects. In fact, this learning behavior is further reinforced by the national university entrance exam, which emphasizes both content knowledge and test-taking skills. Provided that OES assessments are based on multiple choice tests, students tend to maintain their test-oriented learning behavior.

Other cognitive support services that received relatively higher importance ratings were the e-learning portal, communication with the course instructor, and local study centers. A low level of importance was placed on two cognitive support services: TV programs and radio programs. Some interview participants indicated that both TV and radio programs replicated the textbooks; others indicated that TV programs were also available on the e-learning portal and, therefore, they usually did not use them.

Statistical tests (*t* test and ANOVA) revealed that there might be differences in the level of importance placed on some of the support services based on gender, employment status, and study time. These differences were as follows:

1. Gender: Female students on average placed significantly higher importance on face-to-face academic tutoring, the e-learning portal, and online practice questions/tests than male students.
2. Employment status: Nonemployed students placed significantly more importance on local study centers and communication with course instructors than employed students.
3. Study time: First-year students placed significantly higher importance on local

study centers, online academic counseling, radio programs, and local computer labs than third-year students.

Importance of Affective Support Services

Participants' ratings indicated that all affective and community support services were moderately important for them. While the most important affective support service for the participants was counseling services to promote students' motivation, the least important one was communication among students. Statistical tests (*t* test and ANOVA) revealed that there might be differences in the level of importance placed on some of the affective support services based on employment status and study time. These differences were as follows:

1. Employment status: Nonemployed participants on average placed significantly higher importance on information about OES activities and communication with other OES distance learners than employed participants.
2. Study time: First-year participants on average placed significantly higher importance on counseling services that promote self-confidence and counseling services and overcome students' educational concerns than second-year and fourth-year participants. Moreover, first-year participants on average ascribed significantly higher importance to information about OES activities than fourth-year participants.

Importance of Systemic Services

Participants' ratings revealed that the most important systemic support service for them was orientation to course media/delivery format of OES. Somewhat important for

the questionnaire participants were local OES bureaus, administrative services on the internet, help with technical problems, and help with admission/registration. Information services provided through mobile-quest was not as important for them. Interview participants indicated that mobile-quest has a service charge, whereas almost all services available through mobile-quest were reported to be available on the internet for free.

Similar to cognitive and affective services, statistical tests (t test and ANOVA) revealed that there might be differences in the level of importance placed on some of the systemic support services based on gender, employment status, and study time. These differences were as follows:

1. Gender: Female participants on average placed significantly higher importance on orientation about course media/delivery format than male participants.
2. Employment status: Nonemployed participants on average placed significantly higher importance on assistance in overcoming technical problems and administrative services provided on the internet than employed participants.
3. Study time: First-year participants on average ascribed significantly higher importance to assistance in overcoming technical problems than third-year students.

Accessibility of Cognitive Services

One-half of the ten cognitive support services were perceived to have a medium level of accessibility, and the other halves were perceived to have a low level of accessibility. Services that were assigned the lowest level of accessibility were local computer labs for student use, communication with course instructors, radio programs,

local study centers, and educational software produced by OES. Services that were assigned a medium level of accessibility are online practice questions and tests, the e-learning portal, online academic counseling, face-to-face academic counseling, and TV programs.

Statistical tests (t test) revealed that there might be differences in the level of accessibility placed on some of the cognitive support services based on gender and employment status. These differences were as follows:

1. Gender: Female students assigned more accessibility to face-to-face academic tutoring than male students.
2. Employment status: Nonemployed students assigned more accessibility to local study centers than employed students.

Accessibility of Affective Services

Participants' ratings revealed that OES failed to meet the expectations of its learners concerning affective support. All affective support services received a low accessibility rating. The affective support services that received the lowest accessibility mean scores were counseling services that promote students' motivation and counseling services that overcome students' educational concerns. Statistical tests (t test) revealed that there might be differences in the level of accessibility placed on one of the affective support services based on employment status. The difference was as follows: Nonemployed participants on average placed significantly higher accessibility to social interaction among students than employed participants.

Accessibility of Systemic Services

Two systemic support services were perceived to have a low level of accessibility, and the rest were perceived to have a medium level of accessibility. The least accessible systemic support service was orientation to the course media/delivery. The most accessible one was administrative services provided on the internet. Statistical tests (*t* test) revealed that there might have been differences in the level of accessibility placed on one of the systemic support services based on employment status. The difference was as follows: Nonemployed participants on average placed significantly higher accessibility on assistance in overcoming technical problems than employed participants.

Needs-Gap Analysis

In order to identify support services that need some improvement, a needs-gap analysis was performed for each support service using the importance and accessibility ratings. A needs-gap mean score was calculated for each support service by subtracting the accessibility rating of each case from the importance rating and calculating the mean of the differences. A needs-gap mean score of 1.00 or higher was taken to indicate a great need for improvement, 0.50 to 0.99 was taken to indicate a moderate need for improvement, and 0.49 or less was taken to indicate a slight need for improvement. This section presents the support services that were identified as having a great need for improvement.

The analysis revealed that there is room for improvement for several support services. The greatest need for improvement was identified in affective support services. Five out of six affective support services had a needs-gap mean score of 1.00 or higher.

Among six affective support services, the greatest needs gap was identified for counseling to promote student motivation. Qualitative data obtained through interviews and open-ended questions affirmed that students need more motivation to increase their affective involvement in their learning. They have mentioned several outside as well as personal factors that adversely impact students' motivation to persist in studying at the OES. This included the public's mindset, some of the instructors' negative attitudes, and their own perception of the OES.

In addition to promoting student motivation, four other affective services had a needs-gap mean score of 1.00 or higher. These services are overcoming students' concerns about their educations, promoting students' self-confidence, promoting social interaction among OES students, and information about OES-related activities. The smallest needs gap was identified for communication with other OES distance learners. However, the gap was still higher than many of the services in other service categories.

The need for social interaction was affirmed during the interviews with institutional representatives. Representatives indicated that thousands of OES students came to live in Eskisehir from other cities in order to “live closer to the University (OES) they belonged.” As indicated by one of the staff, these students wanted to “experience the social environment of the university” and “participate in social activities.”

Statistical tests suggested that there might be differences in needs-gap mean scores based on employment status and study time. The needs gap for the affective service communication with other OES students was significantly larger for nonemployed participants. In regard to study time, the needs gap for counseling to

overcome educational concerns was significantly larger for first-year participants than for fourth-year participants. Moreover, the needs gap for counseling services that promote self-confidence and communication with other OES students was significantly larger for first-year participants than for second-year and third-year participants.

In regard to cognitive support services, a great need for improvement was identified for two of the ten academic support services. These were face-to-face academic counseling and communication with course instructors. Participants commented (through interview and open-ended questions) that face-to-face academic tutoring was very important for them to simplify and clarify the topics they could not understand from the text. However, they expressed their concerns about the quantity and quality of the face-to-face academic tutoring. Participants requested academic tutoring for more courses and for an extended time. Moreover, they complained about the inefficient and uncomfortable face-to-face tutoring settings, usually caused by crowded classrooms.

Additionally, some participants expressed their concerns about their inability to access course instructors outside the tutoring hours. As one participant said,

Classrooms are too crowded. Also, the time allocated for tutoring is very short. It is very hard for us to ask any question to the instructors during tutoring hours. It would be super helpful if we could reach them or someone else when we need help.

A one-way ANOVA revealed significant differences in needs-gap mean scores between first-year and third-year participants for two cognitive support services. The needs gap for online academic counseling and educational software produced by OES was larger for the first-year participants than the third-year participants.

In addition to affective and cognitive support services, a great need for

improvement was identified for one of the six systemic support services: orientation to the course media/delivery format of OES. This need was reflected by interview participants, a majority of whom indicated that they had little or no information about OES and/or its functions before they enrolled at OES.

Research Question Three

Questionnaire participants were asked to specify the stage(s) throughout their study (pre-enrollment, starting courses/program, moving through courses/program, finishing courses/program) in which each support service was most needed. Students were given the option to specify as many stages as they wanted. An option of “never needed” was also given for students to indicate if they never needed the service. Frequency distributions were calculated for each stage to identify the support services most needed in each stage. Services needed in each stage are summarized in the following sections.

Pre-enrollment

What participants needed most at this stage were support services that will help them get started with the distance education program. While a majority of these services fall into the systemic/administrative service category, some of them are affective support services. The most desired systemic services at this stage were help with the admission/registration process and administrative services provided at the local OES bureaus. Approximately 75% of the participants indicated the need for these services. Moreover, approximately one-half of the participants indicated the need for orientation to the course media/delivery format of OES at this stage. The most desired affective support

services before or during enrollment time were counseling to promote student motivation, activities to promote social interaction, and communication among OES students.

Approximately one-third of the participants indicated the need for each of these affective services. Only a small number of participants indicated that they needed cognitive support before or during enrollment time.

Beginning of the Program

Participants indicated that the most support was needed at this stage. Four out of six systemic services, eight out of ten cognitive support services, and all the affective services were identified as needed by at least one-third of the participants. Administrative services provided by the local OES offices and orientation to the delivery format continued to be the most desired systemic services at the beginning of the course/program. Moreover, the need for administrative services provided on the internet and help on technical problems increased at this stage.

The need for all affective support services increased at the beginning of the program. Counseling to promote student motivation continued to be the most desired affective service at this stage. Not surprisingly, the need for cognitive support services increased while engaging in the coursework. Face-to-face counseling was perceived to be most needed support service at this stage, with over one-half of the participants indicating the need for this service. Moreover, approximately one-half of the participants noted that they needed communication with instructors, the e-learning portal, and online practice tests at this stage.

Moving Through the Program

While the need for cognitive services increased enormously, an overall decrease in the need for systemic and affective support services was observed while moving through the program. More than 85% of participants indicated the need for face-to-face counseling and online practice tests at this stage. Additionally, the e-learning portal and communication with instructor continued to be important support services needed at this stage. In regard to systemic and affective support, services provided at the local OES offices and on the internet, counseling to promote student motivation, and counseling to overcome educational concerns were perceived to be needed by approximately one third of the participants at this stage.

End of the Program

The need for most of the support services declined by the end of the program. Two services stayed important at this stage: services provided at the local OES offices and online practice tests. Small percentages of participants indicated that they needed other support services at this stage.

Never Needed

Five support services were perceived to be never needed by over one-half of the participants. These were mobile-quest information services, radio programs, TV programs, local computer labs, and information about OES activities. Only three support services were considered never needed by less than 10% of the participants. These were services provided at the local OES offices, face-to-face counseling, and online practice tests.

Overall Need for Cognitive Services

Participants indicated that online practice tests were important and needed from the beginning of the program to the end. In addition to online practice tests, face-to-face academic counseling and communication with course instructor were two services needed most both at the beginning and moving through the program.

Overall Need for Affective Services

Participants' overall need for affective support declined from beginning to end of the program. Counseling to promote student motivation was the most needed affective service in almost all stages.

Overall Need for Systemic Services

Participants indicated that administrative services provided by the local OES bureaus and administrative services provided on the internet were two systemic services desired in all stages. The need for orientation to course media/delivery format and help with the technical problems decreased enormously after the beginning of the program.

Research Question Four

Participants were given the opportunity to provide their suggestions through open-ended questions and follow-up interviews. The majority of their suggestions included strategies to overcome challenges they experienced throughout their distance learning practice. These challenges were discussed in detail in the previous chapter as impeding factors.

A great majority of the suggestions were related to face-to-face academic

counseling. This was not surprising given the high level of importance they placed on this service. Participants suggested increasing both the quantity and quality of the face-to-face academic counseling. They expressed the need for face-to-face tutoring for all courses. Some participants called for more tutoring hours and days. _Participants from Kayseri, where tutoring took place only on Saturdays, especially requested to have different tutoring days for different courses instead of having them all in one day. Moreover, several participants complained about having less than six months of tutoring for courses designed to be yearlong (OES tutoring starts early in January and ends late in May) and, therefore, requested face-to-face tutoring to start early in the academic year.

With regard to quality, the most common suggestion was to reduce the class size. Some participants called for more practice questions and tests to be solved by the instructors during tutoring sessions. Also suggested by several participants was effective, energetic, and concerned instructors who do not follow the textbook strictly. Moreover, participants from Eskisehir and Ankara complained about the evening tutoring hours and asked for morning tutoring hours.

Other than face-to-face academic counseling, participants provided suggestions related to other academic components. For instance, several complained about the texts being detailed and lengthy. They recommended redesigning textbooks to make them short and straightforward. Another academic component that needed to be improved was TV programs. Participants complained that most TV programs are too old and nothing more than a talking head. They asked for updated and interactive TV programs. Some complained about inconvenient TV hours.

Participants also offered recommendations regarding the OES examination system. One suggestion was extending the time between the midterm and final exam. They further suggested midterm exam results be announced earlier so that they could take action for the final exam as early as possible. Another related suggestion was to increase the number of supplementary practice test booklets and CDs to prepare better for the exams. A couple participants also recommended homework assignments be given to keep students active throughout the academic year.

Some other suggestions were made to increase outside academic opportunities for OES students. Several participants asked for more academic resources, such as the ability to use local universities' libraries and attend their conferences and seminars. A couple participants indicated their demand for internship possibilities.

In addition to the suggestions for academic improvement, participants provided suggestions to augment affective involvement in their learning. For instance, several participants complained about the public's negative attitude towards OES. They stated that the public neither considered them as a formal education institution nor regarded them as traditional students. According to them, this influenced their motivation and affective involvement in their distance learning. Therefore, they expressed their expectations of more respect and care from the public and OES staff. Several participants suggested that OES and the government should inform the public about OES to eliminate their negative attitude against OES and its students.

Moreover, participants asked for other affective services such as activities to help them socialize, opportunities to communicate with other OES students, and guidance

services to overcome their concerns, stresses, and anxieties, especially during exam times. Some participants complained about the lack of communication between students and the OES, and indicated that this undermined their sense of belonging to OES. They asked for more communication opportunities between them and the OES.

In regard to systemic service improvement, participants asked for clear and accurate information about OES procedures. Moreover, several participants indicated the need for a point of address (e-mail or phone) to contact all the time for any type of questions they have. Furthermore, first-year participants recommended that an orientation program would have helped them overcome their frustrations at the very beginning. Other suggestions were experienced and knowledgeable staff at the local offices, scholarship and dormitory opportunities, and lower registration fees.

Limitations of the Study

This study has several potential limitations that need to be addressed. This includes (a) the sample, (b) language, (c) researcher's bias, and (d) observer effect. The following sections address each of these limitations.

Sample

This study was a case study and was limited to students within the Turkish OES. Additionally, the sample for this study was not randomly selected. Instead, a convenient sampling strategy was used to increase participation. Participants in this study were OES students who were regularly attending face-to-face academic tutoring in three different provinces (Kayseri, Eskisehir, and Ankara); hence, the findings from this study might

have limited generalizability for this particular population. Moreover, as indicated earlier, the sample included first-year OES students who might have not had enough experience for some of the support services they evaluated.

Language

This study included several stages in which I had to switch between two languages: English and Turkish. For instance, the research proposal, literature review, and research tools were first completed in English. Data collection and analysis were conducted primarily in Turkish, especially for qualitative data. Later findings were reported in English. Although I am fluent in both Turkish and English, there still might be concerns with the language used in the data collection instruments and in reporting the findings, both of which may have impacted the findings.

In order to minimize the language issues, I pilot-tested the research instruments before using them to clarify the instructions and questions. Moreover, findings from the qualitative data analysis (in Turkish) and the final report (in English) were crosschecked by a colleague who is fluent in both Turkish and English.

Researchers' Bias

While I made every attempt to remain as unbiased as possible, it is unknown how my educational background and experience in Turkey as well as my knowledge of the institution may have influenced the responses. To eliminate any possible bias, I tried to avoid providing comments or offering opinions on any matter related to research questions during interviews.

Observer Effect

In some cultures, people tend to answer questions the way they think the questioner should or wants to hear. Turkish culture reflects this characteristic. Moreover, in Turkey people tend to say “no” or appear as if they don’t know anything about the issue being discussed, especially when they feel unsecure (Murphy, 1990). Therefore, while I made every attempt to establish rapport with them and make them feel comfortable, it is still unknown how truthful the interview participants were in our interviews.

Implications of the Study

The findings of this study may support the field of student support in distance education, which is currently in its state of infancy in terms of research on best practices. The findings should assist first and foremost the student support personnel in the sampled institution, and then other similar institutions, in making well-informed decisions regarding the design, development, and dissemination of effective student support services.

This study has demonstrated several areas of support services that need improvements in order to support students effectively in their learning experience. Based on the findings of this study, the following recommendations for implication can be made:

1. Institutional level: Participants’ ratings of several support services revealed that face-to-face academic counseling and online practice tests are very important cognitive tools assisting OES students in their learning experience. Therefore,

OES should not only continue to offer these cognitive support services, but should also augment the quality and quantity of these services. For instance, participants in this study provided several recommendations related to face-to-face counseling. These included more face-to-face academic counseling hours and days for currently available courses, face-to-face academic counseling for all courses, and less populated face-to-face academic counseling classrooms.

2. Institutional level: The needs-gap analysis revealed that OES failed to meet the expectations of its students about their affective support needs. A large needs gap was identified for five of six affective services included in the questionnaire. This suggests that OES should develop different support tools and strategies to augment its students' motivational, psychological, and emotional state that might contribute to their affective involvement.
3. Institutional level: In connection with the previous recommendation, OES should not ignore the community dimensions of affective support. It should especially develop strategies in collaboration with other stakeholders to overcome the public's negative perception of OES, which was identified to influence students' affective involvement.
4. Institutional level: The needs-gap analysis also revealed that there is a need to increase the communication with the course instructors. The recommendation provided in item one (above) can increase the communication between students and course instructors in face-to-face courses (i.e., extending tutoring hours and days). For online academic counseling, OES needs to review the online medium

for usability. Although the question-answer forum seems simple to use, students complained about the difficulty of adding math questions. They further complained that they can not know whether their questions are answered or not until they log in again.

5. Institutional level: The needs-gap analysis further revealed that OES should provide general orientation sessions at the beginning of the academic year, particularly for the newcomers. As indicated by the interview participants, some students enroll in OES without having any information about how it functions.
6. General and institutional level: Findings of this study further suggest that there might be some differences between the support needs of student subgroups (male vs. female or employed vs. unemployed). Therefore, it is necessary for an institution to conduct continuous studies of their distance learners to determine their changing needs.
7. General and institutional level: Findings of this study also suggest that students might not necessarily know about the available services. Therefore, special attention should be given to strategies and tools that will be used to inform students about available support services and sources of each support.
8. General and institutional level: There should be a communication structure between frontline support service providers and course or delivery system designers and program administrators. It is usually the frontline personnel who deal with the challenges and issues that students face. These personnel can produce valuable feedback from students based on their experiences with the

courses, program, or delivery mediums. Provided that the course or delivery system designers and program administrators have limited or no interaction with students to get feedback, such feedback produced by the frontline service providers needs to be conveyed to backend staff so as to improve to the quality of the courses or administrative processes.

Recommendations for Further Research

While findings of this study provide considerable insight into the field of student support in distance education, it is important to note areas in which modifications to the study may enhance reliability and/or increase generalizability. It is highly recommended that this study be replicated with more participants and equally represented student subgroups. Students who don't participate in face-to-face academic counseling sessions should especially be included in future studies. Future research should also investigate the perceptions and experiences of drop out and/or stop out students, graduates, student support personnel, and employers on learner support needs, as they may provide different perspectives.

Future research should investigate the relationship between various support services and student outcomes of grades and course satisfaction. These studies will not only add to our already expanding knowledge of student support, but will also assist the administrators' support service providers in distance education institutions identifying support services that are important for student satisfaction and success.

Also important is that as the technology continues to transform the modes of instructional delivery in distance education settings, the overall distance learner profile

will continue to change. Changes both in the delivery technologies and in the distance learner profile will bring about challenges to the practice of student support in distance education. While rapidly changing delivery technologies urge us to develop new support structures that can encompass the new delivery modes, parallel changes in the distance learner profile require us to develop support services of various kinds that can address the changing profile of distance learners. This also points out the need for institutions to perform continuous evaluation of support service needs for the changing distance learner population in conjunction with the changes in the course delivery mediums.

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APPENDICES

Appendix A
Research Questions and Corresponding
Research Methodologies

Table 17

Research Questions and Corresponding Research

Questions	Data sources	Research methodologies	
		Data collection	Data analysis
1. Which support services are currently available to OES students?	<p>A. Institutional artifacts. OES website, e-learning portal, and registration handbook.</p> <p>B. Institutional representatives. Four OES representatives who are knowledgeable about learner support policies and procedures were interviewed. Representatives were selected by referral by top administrators.</p>	<p>A. Artifact review (Qualitative). Institutional artifacts were reviewed to identify support services offered to OES students.</p> <p>B. Interviews (Qualitative). In-person or phone interviews with OES representatives in their own language (Turkish). Each last approximately 30 minutes. Representatives were asked to indicate all the support services they provide, how they provide them, and the rationale for providing each service.</p>	<p>A. Qualitative. Data analysis for artifact reviews took place during the review process. All the learner support services mentioned in the artifacts or any artifact that is itself a support service were recorded. Any details were included.</p> <p>B. Qualitative. Interviews with OES representatives were recorded and transcribed. Transcribed data was analyzed to identify which support services were needed most in each stage. Analysis was performed in Turkish, and later, results were reported in English.</p>
2. What are the perceptions of OES students about the importance and accessibility of learner support services that they receive?	<p>A. Questionnaire Administered to Current OES students. A questionnaire was administered to OES students (who have completed at least one year of education) at the regional study centers located in three different cities.</p> <p>B. Follow-up Interviews with OES Students. Follow-up interviews were conducted with 16 students who participated in the questionnaire.</p>	<p>A. Questionnaire (Quantitative). Second part of the questionnaire included a list of support services (identified through institutional representative interviews and review of literature and institutional artifacts) for students' rating of importance and accessibility. A likert scale of one to four was used for ratings.</p> <p>B. Interviews (Qualitative). Individual and group interviews with 16 OES students were conducted. Interviews last approximately 30 minutes. The interview protocol developed by Clark (2003) was modified and used to guide interviews). Students were asked various questions about their distance learning experiences.</p>	<p>A. Quantitative. Student demographics were identified through frequency distribution. Statistical computations of mean rankings were performed to rank support services in terms of their importance and accessibility as perceived by the distance learners. For each learner support service, the difference between the mean scores of important and accessibility was calculated to determine whether there was a need for improving (the accessibility of) that particular service. T-test/ANOVA was performed to determine if significant difference might exist between student sub-groups (gender, employment status, and years of study.) in relation to the distribution of importance, accessibility, and needs-gap mean scores for each service.</p> <p>B. Qualitative. Interviews with OES students were recorded and transcribed. Transcribed data was analyzed to identify which support services were needed most in each stage. Analysis was performed in Turkish, and later, results were reported in English.</p>

(table continues)

<p>3. At which stages of the distance learning process do OES students need support most? And what particular services do they need?</p>	<p>Both A and B indicated for Question # 2 (see “Data Collection” column for details) →</p>	<p>A. Questionnaire (Quantitative). The questionnaire included same list of support services and students were asked to identify the stages (pre-enrollment, starting courses/program, moving through courses/program, finishing courses/program) in which each support service was needed. An option of “never needed” was given for students to choose if they never needed the service. B. Interviews (Qualitative). (See upper column for general information about interviews). Students were reminded of different stages of their study and be asked various questions to identify their support needs in each stage.</p>	<p>A. Quantitative. Statistical computations of frequency distributions were performed for each stage (pre-enrollment, starting courses/program, moving through courses/program, finishing courses/program) to identify the support services most needed in each stage. B. Qualitative. Interviews with OES students were recorded and transcribed. Transcribed data was analyzed to identify which support services were needed most in each stage. Analysis was performed in Turkish, and later, results were reported in English.</p>
<p>4. What suggestions do OES students make about improving the existing learner support services at OES?</p>	<p>Both A and B indicated for Question # 2 (see “Data Collection” column for details) →</p>	<p>A. Questionnaire (Qualitative). Open-ended questions were included at the end of the Questionnaire to get suggestions/recommendations from participating students. B. Interviews (Qualitative). (See 2nd column for general information about interviews). Students were asked for their suggestions for improvement in institutional student services.</p>	<p>A & B. Qualitative. The Nivo8 qualitative analysis software was used to condense written comments (collected through the questionnaire) and interview transcripts into meaningful suggestion categories.</p>

Appendix B

Student Questionnaire (Turkish and English)

Student Questionnaire (Turkish)



Department of Instructional Technology
2830 Old Main Hill
Logan UT 84322-2830
Telephone: (435) 797-2694
Fax: (435) 797-2693

Date Created: January 18, 2008
USU IRB Approved: 01/18/2008
Approval terminates: 01/27/2009
Protocol Number 1989
IRB Password Protected per IRB Administrator

Prof. Dr. David Wiley

Onam Belgesi

Açıköğretim Fakültesi Öğrenci Destek Hizmetlerinin Örnek-Olay İncelemesi

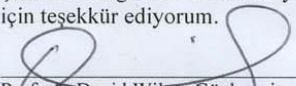
Değerli Açıköğretim Öğrencisi,

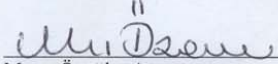
Ben Utah Eyalet Üniversitesi'nde doktora öğrencisiyim ve Dr. David Wiley'nin danışmanlığında doktora tezime yönelik Açıköğretim Fakültesi'nin sunduğu öğrenci destek hizmetleri ile alakalı bir araştırma yapmaktayım. Araştırmanın amacı Açıköğretim öğrencilerinin başarılı olabilmeleri için gereksinim duydukları öğrenci destek hizmetlerinin belirlenmesine ve geliştirilmesine katkıda bulunmaktadır. Dolayısıyla bir Açıköğretim öğrencisi olarak, bu çalışmaya katılımınız benim için son derece önem arz etmektedir.

Bu çalışmaya katılımınız, Açıköğretim Fakültesi'nin sağlamış olduğu öğrenci destek hizmetleri ile alakalı görüşlerinizi almak için hazırlanmış ekteki anketi doldurmanız ile mümkün olacaktır. Bu ankette Açıköğretim Fakültesini tercih etme sebebinizin yanı sıra sizden Açıköğretim Fakültesi'nin sağlamış olduğu öğrenci destek hizmetlerinin önem ve erişilebilirliğinin değerlendirilmesi istenecektir. Yine bu anket sizden Açıköğretim Fakültesi'nin sağlamış olduğu öğrenci destek hizmetleri ile alakalı tavsiyelerinizi almak için açık uçlu sorular içermektedir.

Bu ankete katılımınız tamamen isteğinize bağlı olup, katılmamanız ya da anketi yarıda bırakmanız durumunda herhangi bir ceza yaptırım yoktur. Anketi tamamlamak için yaklaşık olarak 15-20 dakikalık bir zamana ihtiyacınız olacaktır. Amacım sizlerden ankette bulunan bütün sorular için cevap alabilmektir. Ancak ankette size yöneltilen sorulardan herhangi birini cevaplamak istemiyorsanız o soruyu boş bırakabilirsiniz. Bu ankete katılımınız sizin için minimum risk teşkil etmektedir. Bu ankette vermiş olduğunuz kişisel bilgiler kesinlikle gizli kalacak ve hiçbir şekilde başka birileri ile paylaşılmayacaktır. Gizliliği korumak amacıyla MP3 çalar çekilişine katılımınız için sizden toplanacak kişisel bilgileri içeren iletişim formu ankette verdiğiniz cevaplardan ayrı toplanacaktır. Böylelikle isminiz ankette verdiğiniz cevaplarla eşleştirilmeyecektir.

Bu araştırma, katılımcıların kişisel haklarının korunması hususunda, Utah Eyalet Üniversitesi'nin Kurumsal İnceleme Kurulunca incelenmiş ve onaylanmıştır. Bu konu ile alakalı sorularınız için 001-435-797-0567 numaralı telefondan kendilerine ulaşabilirsiniz. Araştırma ile ilgili sorularınız için ise 001-801-580-1036 numaralı telefondan veyahut mozoglu@cc.usu.edu e-mail adresinden bana ulaşabilirsiniz. Şimdiden değerli zamanınızı ayırarak bu mülakata katıldığınız ve araştırmamda bana yardımcı olduğunuz için teşekkür ediyorum.


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Aşağıda belirtilen yeri imzalamak suretiyle, bu çalışmanın içeriğinin size açıklandığını ve yukarıda belirtilen onam bilgilerinizi okuduğunuzu, anladığınızı ve kabul ettiğinizi onaylamış olursunuz.

Ad ve Soyadı

İmzanız

Tarih

İletişim Formu

(SanDisk Sansa MP3 Çalar Çekilişi İçin)

.....

Ankete katılan öğrencilerden üçüne çekiliş yolu ile 2GB'lık SanDisk Sansa marka (arttırılabilir bellekli) MP3 çalar hediye edilecektir. Çekilişe katılmak isteyen öğrencilerin çekiliş sonrasında kendilerine ulaşabilmem için aşağıdaki iletişim formunu doldurmaları rica olunur. Aynı zamanda lütfen iletişim formunda çalışmama daha fazla katkıda bulunmak için sizinle görüşme yapılmasını isteyip istemediğinizi belirtiniz.

.....

1. Çekilişe katılmak istiyorsanız lütfen iletişim bilgilerinizi giriniz.

Ad ve Soyadınız : _____

Telefonunuz : _____

E-mail Adresiniz : _____

2. Çalışmama daha fazla katkıda bulunmak için, sizinle daha sonra telefonla ya da yüz yüze görüşülmesini ister misiniz?

Evet Hayır

Öğrenci Destek Hizmetlerinin Değerlendirilmesi Anketi

Bölüm 1: Genel Bilgi

Aşağıdaki soruların her biri için size uygun olan seçenek ya da seçenekleri işaretleyiniz.

1. Yaşınız?

<input type="checkbox"/> 18'den genç	<input type="checkbox"/> 22-25	<input type="checkbox"/> 31-35	<input type="checkbox"/> 41-45
<input type="checkbox"/> 18-21	<input type="checkbox"/> 26-30	<input type="checkbox"/> 36-40	<input type="checkbox"/> 45'den büyük
2. Cinsiyetiniz?

<input type="checkbox"/> Bayan	<input type="checkbox"/> Bay
--------------------------------	------------------------------
3. Medeni haliniz?

<input type="checkbox"/> Bekâr	<input type="checkbox"/> Evli	<input type="checkbox"/> Boşanmış
--------------------------------	-------------------------------	-----------------------------------
4. Evinizde kendiniz dâhil toplam kaç kişi yaşamakta? _____(sayı ile)
5. Evinizde başkalarından rahatsız olmadan çalışabileceğiniz bir odanız var mı?

<input type="checkbox"/> Evet	<input type="checkbox"/> Hayır
-------------------------------	--------------------------------
6. Bir işte çalışıyor musunuz?

<input type="checkbox"/> Evet	<input type="checkbox"/> Hayır (8. soruya geçiniz)
-------------------------------	--
7. Şayet çalışıyorsanız, çalıştığınız sektör nedir?

<input type="checkbox"/> Kamu Sektörü	<input type="checkbox"/> Özel Sektör	<input type="checkbox"/> Serbest Meslek
---------------------------------------	--------------------------------------	---
8. Açıköğretim Fakültesi'ni tercih etme sebebiniz nedir (birden fazla cevap işaretleyebilirsiniz)?

<input type="checkbox"/> İşime engel olmadan eğitim görme olanağı sağlıyor.
<input type="checkbox"/> Maddi durumum diğer üniversitelerde örgün eğitim görmek için yeterli değil
<input type="checkbox"/> Üniversite giriş sınavında aldığım puan diğer üniversitelere girmek için yeterli değildi.
<input type="checkbox"/> Mevcut işimde terfi etmek veya maaşımı artırmak.
<input type="checkbox"/> Askerliğimi tecil ettirmek [erkek öğrenciler için].
<input type="checkbox"/> Öğrenci kimliğine sahip olmak.
<input type="checkbox"/> Meslek sahibi olmak.
<input type="checkbox"/> Genel kültürümü artırmak.
<input type="checkbox"/> İlgili duyduğum bir konu ile ilgili bilgi sahibi olmak.
<input type="checkbox"/> Diğer (lütfen belirtiniz): _____
9. Üniversite sınavına tekrar girmeyi düşünüyor musunuz?

<input type="checkbox"/> Evet	<input type="checkbox"/> Hayır
-------------------------------	--------------------------------
10. Kaç yıldır AÖF'nde eğitim görmektesiniz?

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4 veya fazla
----------------------------	----------------------------	----------------------------	---------------------------------------
11. AÖF'ne kayıt yaptırmadan önceki en yüksek eğitim durumunuz neydi?

<input type="checkbox"/> Lise mezunu.
<input type="checkbox"/> Başka bir üniversitede lisans eğitim görüyordum.
<input type="checkbox"/> Lisans Derecesi tamamlamıştım.
<input type="checkbox"/> Yüksek Lisans Derecesi tamamlamıştım.
<input type="checkbox"/> Diğer (lütfen belirtiniz): _____
12. AÖF'ne kayıt yaptırmadan önce uzaktan eğitim tecrübeniz olmuş muydu?

<input type="checkbox"/> Evet	<input type="checkbox"/> Hayır
-------------------------------	--------------------------------

Bölüm 2: Öğrenci Destek Hizmetlerinin Değerlendirilmesi

13. Lütfen aşağıdaki tabloda belirtilen öğrenci destek hizmetlerinin AÖF'ndeki eğitim tecrübeniz doğrultusunda başarınız için ne derece önemli ve erişilebilir (ulaşılabilir) olduğunu kendi açınızdan değerlendiriniz (Lütfen Önem ve Erişilebilirliği belirtilen sütunlarda ayrı ayrı değerlendiriniz. Değerlendirme için rakamları yuvarlak içine alınız).

Öğrenci Destek Hizmet Türü	Önem					Erişilebilirlik				
	Önemsiz	Az Önemli	Orta Derecede Önemli	Önemli	Çok Önemli	Erişilemez	Az Erişilir	Orta Derecede Erişilir	Erişilir	Çok Erişilir
Başvuru ve kayıt işlemlerine ilişkin yardım	0	1	2	3	4	0	1	2	3	4
Öğrencilerin karşılaştığı teknik problemleri gidermeye yönelik yardım	0	1	2	3	4	0	1	2	3	4
Öğrencilerin uzaktan eğitim sistemine uyum sağlamaları için oryantasyon	0	1	2	3	4	0	1	2	3	4
AÖF Bürolarında verilen hizmetler	0	1	2	3	4	0	1	2	3	4
İnternet üzerinden verilen bilgilendirme hizmetleri	0	1	2	3	4	0	1	2	3	4
Mobil-Öğren servisi aracılığı ile verilen bilgilendirme hizmetleri	0	1	2	3	4	0	1	2	3	4
Öğrencilerin özgüvenlerini artıracak türden rehberlik faaliyetleri	0	1	2	3	4	0	1	2	3	4
Öğrencilerin motivasyonlarını artıracak türden rehberlik faaliyetleri	0	1	2	3	4	0	1	2	3	4
Öğrencilerin eğitimleriyle ilgili endişelerini giderecek türden rehberlik hizmetleri	0	1	2	3	4	0	1	2	3	4
Öğrencilerin AÖF ile ilgili gelişmeler ve etkinlikler hakkında bilgilendirilmesi	0	1	2	3	4	0	1	2	3	4
Öğrencilerin tanışması ve kaynaşması için yapılan sosyal etkinlikler	0	1	2	3	4	0	1	2	3	4
Öğrencilerin buldukları şehirde nezih ve sessiz bir çalışma ortamı	0	1	2	3	4	0	1	2	3	4
Yüz yüze verilen akademik danışmanlık hizmetleri	0	1	2	3	4	0	1	2	3	4
E-öğrenme ortamında sunulan elektronik danışmanlık hizmetleri	0	1	2	3	4	0	1	2	3	4
Televizyon programları aracılığı ile sağlanan akademik destek	0	1	2	3	4	0	1	2	3	4
Radio programları aracılığı ile sağlanan akademik destek	0	1	2	3	4	0	1	2	3	4
AÖF tarafından hazırlanan (alıştırmalar içeren) bilgisayar yazılımları	0	1	2	3	4	0	1	2	3	4
Öğrencilerin kullanımına açık yerel bilgisayar laboratuvarları	0	1	2	3	4	0	1	2	3	4
Ders materyallerinin E-öğrenme ortamında yayınlanması	0	1	2	3	4	0	1	2	3	4
E-öğrenme ortamında sunulan alıştırma soruları ve deneme sınavları	0	1	2	3	4	0	1	2	3	4
Ders hocaları ile iletişim olanağı	0	1	2	3	4	0	1	2	3	4
Diğer AÖF öğrencileri ile iletişim olanağı	0	1	2	3	4	0	1	2	3	4
Diğer (lütfen belirtiniz): _____	0	1	2	3	4	0	1	2	3	4
Diğer (lütfen belirtiniz): _____	0	1	2	3	4	0	1	2	3	4
Diğer (lütfen belirtiniz): _____	0	1	2	3	4	0	1	2	3	4

14. Lütfen yukarıda önem ve erişilebilirliklerini değerlendirdiğiniz öğrenci destek hizmetlerine AÖF'ndeki eğitiminiz süresince en fazla hangi aşamalarda ihtiyaç duyduğunuzu gerekli kutuya "X" işareti koyarak belirtiniz (Her bir hizmet için birden fazla aşama seçebilirsiniz).

Öğrenci Destek Hizmet Türü	Aşamalar				
	Hiç ihtiyaç duymadım	Kayıt Öncesinde Esnasında	Dönem/ Program başında	Dönem/ Program ortasında	Dönem/ Program sonunda
Başvuru ve kayıt işlemlerine ilişkin yardım					
Öğrencilerin karşılaştığı teknik problemleri gidermeye yönelik yardım					
Öğrencilerin uzaktan eğitim sistemine uyum sağlamaları için oryantasyon					
AÖF Bürolarında verilen hizmetler					
İnternet üzerinden verilen bilgilendirme hizmetleri					
Mobil-Öğren servisi aracılığı ile verilen bilgilendirme hizmetleri					
Öğrencilerin özgüvenlerini artıracak türden rehberlik faaliyetleri					
Öğrencilerin motivasyonlarını artıracak türden rehberlik faaliyetler					
Öğrencilerin eğitimleriyle ilgili endişelerini giderecek türden rehberlik hizmetleri					
Öğrencilerin AÖF ile ilgili gelişmeler ve etkinlikler hakkında bilgilendirilmesi					
Öğrencilerin tanışması ve kaynaşması için yapılan sosyal etkinlikler					
Öğrencilerin buldukları şehirde nezih ve sessiz bir çalışma ortamı					
Yüz yüze verilen akademik danışmanlık hizmetleri					
E-öğrenme ortamında sunulan elektronik danışmanlık hizmetleri					
Televizyon programları aracılığı ile sağlanan akademik destek					
Radio programları aracılığı ile sağlanan akademik destek					
AÖF tarafından hazırlanan (alıştırmalar içeren) bilgisayar yazılımları					
Öğrencilerin kullanımına açık yerel bilgisayar laboratuvarları					
Ders materyallerinin E-öğrenme ortamında yayınlanması					
E-öğrenme ortamında sunulan alıştırmalar soruları ve deneme sınavları					
Ders hocaları ile iletişim olanağı					
Diğer AÖF öğrencileri ile iletişim olanağı					
Diğer (lütfen belirtiniz): _____.					
Diğer (lütfen belirtiniz): _____.					
Diğer (lütfen belirtiniz): _____.					

15. Aşağıda belirtilen hizmetleri ya da ders kaynaklarını hangi sıklıkta kullanmaktasınız (Lütfen her bir hizmet ya da ders kaynağını hangi sıklıkta kullandığınızı gerekli kutuya "X" işareti koyarak belirtiniz)?

Ders Kaynakları	Hiç	Nadiren	Bazen	Sıklıkla	Sürekli
Açıköğretim Fakültesi'nin hazırladığı ders kitapları					
Açıköğretim Fakültesi'nin sunduğu elektronik öğrenme (E-öğrenme) ortamı					
Açıköğretim Fakültesi'nin sunduğu yüz-yüze akademik danışmanlık hizmetleri					
Açıköğretim Fakültesi'nin sunduğu televizyon programları					
Açıköğretim Fakültesi'nin sunduğu radyo programları					
Başka kurum ya da kuruluşlarca hazırlanan yardımcı kaynaklar					
Özel Açıköğretim kursları					

16. AÖF'ndeki eğitiminiz süresince en çok hangi faktör ya da faktörler başarılı olmanıza yardımcı oldu? Lütfen açıklayınız.

17. AÖF'ndeki eğitiminiz süresince en çok hangi faktör ya da faktörler başarılı olmanıza engel oldu? Lütfen açıklayınız.

18. AÖF'nin sağladığı öğrenci destek hizmetlerinin daha da iyileştirilmesi için neler tavsiye edersiniz?

Ankete katıldığınız için çok teşekkür ediyorum!

Student Questionnaire (English)



Department of Instructional Technology
2830 Old Main Hill
Logan UT 84322-2830
Telephone: (435) 797-2694
Fax: (435) 797-2693

Date Created: January 18, 2008
USU IRB Approved: 01/18/2008
Approval terminates: 01/17/2009
Protocol Number 1989
IRB Password Protected per IRB Administrator

David Wiley

INFORMED CONSENT (Student Questionnaire)


Dear OES Student,

My name is Murat Ozoglu and I am a doctoral student at Utah State University (USU). Currently, I am conducting a research study for my dissertation and Dr. David Wiley is my professor. This study aims to identify support needs and preferences of distance learners studying at Turkish Open Education System. As an administrator working for the Turkish OES, you are invited to participate in this research study that could impact the development of student support services and programs to effectively support and extend the experience of distance learners in the OES and other higher education institutions.

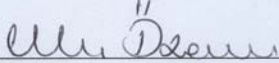
Your participation involves the completion of the attached questionnaire which seeks to gain information about your support needs and preferences as a distance learner studying at the OES. The questionnaire includes broad array of questions to collect data about demographic information, your goals and motivations for participating in the OES program, your perceptions about the importance and accessibility of support services, and types of support services you needed at different stages of your study. The questionnaire also includes open-ended questions, to get your comments on factors that are most assistive and most hindering in your distance learning experience, and your suggestions improving the existing learner support services at the OES.

Please note that your participation to this research is entirely voluntary and refusal to participate does not involve any penalty. It will take only about 15-20 minutes to complete the questionnaire. You can skip any of the questions in the questionnaire that you do not want to answer. If you wish to completely stop, you can do so at anytime you want and such decision will not create any penalty for you. Also note that there is minimal risk in participating in this research except that some of the questions are personal and might cause discomfort. In order to keep confidentiality, your responses will not be paired with your name. In the write up of the research, only the grouped results will be shared.

USU Institutional Review Board (IRB) for the protection of participants in research has approved this study. If you have any questions or concerns, please contact them at 001-435-797-0567. For questions about this research, please -contact me at mozoglu@cc.usu.edu or at 001-801-580-1036. Thank you in advance for your assistance.



Professor David Wiley, Investigator
001-435-797-7562; david.wiley@usu.edu



Murat Ozoglu, Researcher
001-801-580-1036; mozoglu@cc.usu.edu

By signing below you indicate that this research has been explained to you and you have read, understand, and accept the content and activities as outlined in this document.

Print Name

Signature

Date

Contact Information Form

Please complete the contact information form for the purpose of entering your name into a drawing of three mp3 players. The winners will be notified by e-mail and phone. On the contact information form please indicate whether or not you want to participate in a follow-up interview to help me further with my research.

1. Please provide your contact information below.

Name : _____

Telephone : _____

E-mail Address : _____

2. Would you like to participate in an interview and help me further with my research?

Yes

No

What is the best time to call you?

Turkish Open Education System Learner Support Questionnaire

Part I: About You

For each of the following questions, please select one response unless otherwise indicated.

1. How old are you?

<input type="checkbox"/> 18 or younger	<input type="checkbox"/> 22–25	<input type="checkbox"/> 31–35	<input type="checkbox"/> 41–45
<input type="checkbox"/> 18–21	<input type="checkbox"/> 26–30	<input type="checkbox"/> 36–40	<input type="checkbox"/> older than 45

2. What is your Sex?

<input type="checkbox"/> Female	<input type="checkbox"/> Male
---------------------------------	-------------------------------

3. What is your marital status?

<input type="checkbox"/> Single	<input type="checkbox"/> Married	<input type="checkbox"/> Divorced/Separated
---------------------------------	----------------------------------	---

4. How many people live in your home with you (including you)? _____(numerical)

5. Do you have your own room where you can study without much interruption?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

6. Are you employed?

<input type="checkbox"/> Yes	<input type="checkbox"/> No (Skip to Question 9)
------------------------------	--

7. If currently working, please indicate the sector you are working for?

<input type="checkbox"/> Federal Employee
<input type="checkbox"/> Private Employee
<input type="checkbox"/> Self-Employed

8. What are your reasons for participating in the OES distance education program (you can chose more than one)?

<input type="checkbox"/> It provides possibility of studying while working.
<input type="checkbox"/> It is the best choice from the economical point of view.
<input type="checkbox"/> My scores on the university entrance examination didn't allow me to enroll another university.
<input type="checkbox"/> In order to promote my salary through the degree that I will earn.
<input type="checkbox"/> In order to postpone mandatory military service.
<input type="checkbox"/> In order to have a student ID
<input type="checkbox"/> In order to make career.
<input type="checkbox"/> In order to improve my overall literacy skills
<input type="checkbox"/> In order to gain knowledge on a topic that I interested in.
<input type="checkbox"/> Other (please describe) _____

9. Are you planning to take the university entrance exam next year?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

10. For how many years have you been studying in the OES?

<input type="checkbox"/> One	<input type="checkbox"/> Two	<input type="checkbox"/> Three	<input type="checkbox"/> Four or more
------------------------------	------------------------------	--------------------------------	---------------------------------------

11. What was your highest level of education before entering the OES distance education program? (Select one.)

<input type="checkbox"/> completed high school
<input type="checkbox"/> completed some university courses
<input type="checkbox"/> completed a undergraduate degree
<input type="checkbox"/> completed a graduate degree
<input type="checkbox"/> Other (specify): _____

12. Have you taken distance education courses other than those in the OES distance education program?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Part II: Support Needs & Preferences.

13. In your judgment, how important are the following support services for you as a distance education student (please use the column "Importance" for your rating)? In your experience as a distance learner in the OES program, how convenient or accessible are these services (please use the column "Accessibility" for your rating)?

Type of Service/Assistance	Importance					Accessibility				
	Unimportant	Not Very Important	Somewhat Important	Important	Very Important	Not Accessible	Not Very Accessible	Somewhat Accessible	Accessible	Highly Accessible
Help with the admission/registration process	0	1	2	3	4	0	1	2	3	4
Assistance in overcoming technical problems	0	1	2	3	4	0	1	2	3	4
Orientation to the course media/delivery format of OES	0	1	2	3	4	0	1	2	3	4
Administrative services provided at the Local OES Bureaus	0	1	2	3	4	0	1	2	3	4
Administrative services provided on the Internet	0	1	2	3	4	0	1	2	3	4
Mobile-Quest information service	0	1	2	3	4	0	1	2	3	4
Counseling services to promote students' self-confidence	0	1	2	3	4	0	1	2	3	4
Counseling services to promote students' motivation	0	1	2	3	4	0	1	2	3	4
Counseling services to overcome students' concerns about their education	0	1	2	3	4	0	1	2	3	4
Information about OES related activities	0	1	2	3	4	0	1	2	3	4
Activities to promote social interaction among students	0	1	2	3	4	0	1	2	3	4
Local study centers with comfortable working arrangements	0	1	2	3	4	0	1	2	3	4
Face-to-face academic counseling (tutoring)	0	1	2	3	4	0	1	2	3	4
Online academic counseling (tutoring)	0	1	2	3	4	0	1	2	3	4
Academic support through TV programs	0	1	2	3	4	0	1	2	3	4
Academic support through Radio programs	0	1	2	3	4	0	1	2	3	4
Educational software produced by OES	0	1	2	3	4	0	1	2	3	4
Local computer labs for student use	0	1	2	3	4	0	1	2	3	4
E-learning portal	0	1	2	3	4	0	1	2	3	4
Online practice questions and tests	0	1	2	3	4	0	1	2	3	4
Communication with course instructors	0	1	2	3	4	0	1	2	3	4
Communication with other distance learners	0	1	2	3	4	0	1	2	3	4
Other (please specify): _____	0	1	2	3	4	0	1	2	3	4
Other (please specify): _____	0	1	2	3	4	0	1	2	3	4
Other (please specify): _____	0	1	2	3	4	0	1	2	3	4

14. At what stage(s) do you need the following support services? (Please choose as many stages as are applicable for each service)

Type of Service/Assistance	Stages				
	Never Needed	Before Enrollment	Beginning of Program	Moving through Program	End of the Program
Help with the admission/registration process					
Assistance in overcoming technical problems					
Orientation to the course media/delivery format of OES					
Administrative services provided at the Local OES Bureaus					
Administrative services provided on the Internet					
Mobile-Quest information service					
Counseling services to promote students' self-confidence					
Counseling services to promote students' motivation					
Counseling services to overcome students' concerns about their education					
Information about OES related activities					
Activities to promote social interaction among students					
Local study centers with comfortable working arrangements					
Face-to-face academic counseling (tutoring)					
Online academic counseling (tutoring)					
Academic support through TV programs					
Academic support through Radio programs					
Educational software produced by OES					
Local computer labs for student use					
E-learning portal					
Online practice questions and tests					
Communication with course instructors					
Communication with other distance learners					
Other (please specify): _____					
Other (please specify): _____					
Other (please specify): _____					

15. Please indicate how frequently you are using the following academic resources.

Resources	Never	Rarely	Sometimes	Often	Always
Textbooks offered by OES					
E-learning portal by OES					
Face-to-face tutoring offered by OES					
TV programs offered by OES					
Radio programs offered by OES					
Supplementary resources prepared by other people or institutions					
Supplementary tutoring offered by Private Institutions					

16. What are the factors that have assisted you most in your OES distance learning experience and why?

17. What are the factors that have hindered you most in your OES distance learning experience and why?

18. What recommendations or change(s) in student support services would you like to see made?

:

Thank you very much for completing this questionnaire!

Appendix C
Follow-up Student Interview Guide

Follow-up Student Interview Guide

Note: Inform participants about the research and obtain informed consent before starting interviews

Demographics

1. Confirm the demographic information indicated in the questionnaire.

Goals for pursuing higher education degree

2. What are your goals for pursuing higher education degree?

Motivations for attending OES

3. Why did you choose to attend OES?

Perceptions about the education offered by OES

4. What did you know about OES before you enroll?
5. In general, what do you think about the education offered by OES?
6. In general, what do people around you think about the education offered by OES?

Impeding factors

7. Based on your own experience and/or observation of others, what are the primary causes of failure among OES students?

Support services offered by OES

8. What can OES as an institution do to eliminate the causes of failure?
9. In general, how would you describe the level and kind of support services you receive(d) from OES?

Suggestions for Improvements

10. Do you have any suggestions for improvement of OES student support services?
11. Is there anything else you would like to share about your distance learning experience?

Appendix D

Follow-up Interview Participant Profile

Table 18

Follow-up Interview Participant Profile

Interview	Gender	Age	Marital status	Employment	Study time
Individual 1	Male	22-25	Married	Yes	1
Individual 2	Male	22-25	Single	Yes	1
Individual 3	Female	18-21	Single	No	2
Group 1	Male	18-21	Single	Yes	2
Group 1	Female	18-21	Single	No	2
Group 2	Male	22-25	Married	Yes	1
Group 2	Male	18-21	Single	No	1
Group 3	Female	18-21	Single	No	2
Group 3	Female	18-21	Single	No	1
Group 3	Female	18-21	Single	No	1
Group 3	Male	18-21	Single	No	2
Group 4	Female	22-25	Married	Yes	3
Group 4	Female	18-21	Single	No	1
Group 4	Female	18-21	Single	No	2
Group 4	Female	18-21	Single	No	2
Group 4	Male	18-21	Single	No	2

Appendix E
Study Guide Given at the Beginning of
Turkish Economy Course Book

Study Guide Given at the Beginning of Turkish Economy Course Book

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Kullanım Kılavuzu

Kendi kendine öğrenme ilkelerine göre hazırlanmış olan bu kitabın işlevlerini öğrenmek için hazırlanan “Kullanım Kılavuzu”, konuları anlamanızda ve sınavlara hazırlanmanızda sizlere fayda sağlayacaktır.

Giriş: Üniteye işlenen konulara ilişkin bilgi veren, konuya başlamadan önce sizi düşünmeye iten, gerektiğinde konuları daha iyi kavrayabilmeniz için yapmanız gerekenleri belirten kısa açıklamalardır.

Ulusal Gelirin Yapısı ve Gelişimi



Özet: Bu ünite, ulusal gelirin yapısını ve gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Amaçlarımız: Bu üniteyi okuduktan sonra aşağıdaki becerilere sahip olabileceğinizi öğreniriz.

1. Üniteyi okuduktan sonra ulusal gelirin yapısını ve gelişimini ele alabileceğinizi öğreniriz.
2. Üniteyi okuduktan sonra ulusal gelirin yapısını ve gelişimini ele alabileceğinizi öğreniriz.
3. Üniteyi okuduktan sonra ulusal gelirin yapısını ve gelişimini ele alabileceğinizi öğreniriz.

Amaçlarımız: Üniteyi tamamladığınızda kazanacağınız bilgi ve becerilerdir.

Yana Çıkma: Metin içinde yer alan önemli kavram ve ifadelerle ilişkin tanım ya da açıklamalardır. Önemsemeniz gereken noktaları gösterir. Metin içinde yapılan açıklamaların bir tür çok kısa özeti gibi düşünülebilir.

Anahtar Kavramlar: Üniteye açılan temel kavramlardır. Üniteye ilişkin önemli noktalara ilişkin ipuçları verir.

Anahtar Kavramlar

- ZARFIYAT
- ZARFIYAT
- ZARFIYAT

İçindekiler

- ÜNİTE 1: ÜNİTE 1
- ÜNİTE 2: ÜNİTE 2
- ÜNİTE 3: ÜNİTE 3
- ÜNİTE 4: ÜNİTE 4
- ÜNİTE 5: ÜNİTE 5
- ÜNİTE 6: ÜNİTE 6
- ÜNİTE 7: ÜNİTE 7
- ÜNİTE 8: ÜNİTE 8
- ÜNİTE 9: ÜNİTE 9
- ÜNİTE 10: ÜNİTE 10
- ÜNİTE 11: ÜNİTE 11
- ÜNİTE 12: ÜNİTE 12
- ÜNİTE 13: ÜNİTE 13
- ÜNİTE 14: ÜNİTE 14
- ÜNİTE 15: ÜNİTE 15
- ÜNİTE 16: ÜNİTE 16
- ÜNİTE 17: ÜNİTE 17
- ÜNİTE 18: ÜNİTE 18
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İçindekiler: Ünite içinde hangi konuların işleneceğini gösterir. Ana konuların başlıklarını içerir.

GAYRİ SAĞFI MİLLİ HASILA

Özet: Bu bölüm, gayri sağıf milli hasilayı tanımlar ve hesaplamasını gösterir. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Özet: Bu bölüm, gayri sağıf milli hasilayı tanımlar ve hesaplamasını gösterir. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

GSBHA'nın Gelişimi

Özet: Bu bölüm, GSBHA'nın gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Özet: Bu bölüm, GSBHA'nın gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Özet: Bu bölüm, GSBHA'nın gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Özet: Bu bölüm, GSBHA'nın gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Özet: Bu bölüm, GSBHA'nın gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Özet: Bu bölüm, GSBHA'nın gelişimini ele alır. Ünite, ulusal gelirin yapısını ve gelişimini ele alır.

Sıra Sizde: İşlenen konuları kavrayıp kavramadığınızı kendi kendinize ölçmenize yardımcı olmaya amaçlayan, düşünmeye ve uygulamaya yönlendiren sorulardır.

Özet

Özet: Ünitelerde ayrıntılı işlenen konuların önemli noktaları tekrar vurgulanır.

Özet: Ünitelerde ayrıntılı işlenen konuların önemli noktaları tekrar vurgulanır.

Kendimizi Sınayalım

Kendimizi Sınayalım: Ünitelerde işlenen konuları öğrenip öğrenmediğinizi kendi kendinize ölçmenizi sağlayacak, bir tür sınav hazırlık testidir. Sınavlarda çıkabilecek türde soruları içerir.

Kendimizi Sınayalım: Ünitelerde işlenen konuları öğrenip öğrenmediğinizi kendi kendinize ölçmenizi sağlayacak, bir tür sınav hazırlık testidir. Sınavlarda çıkabilecek türde soruları içerir.

Özet: Ünitelerde ayrıntılı işlenen konuların önemli noktaları tekrar vurgulanır.

Kendimizi Sınayalım Yanıt Anahtarı:

"Kendimizi Sınayalım" bölümündeki soruların cevaplarını ve ilgili oldukları konuları içerir. Yanlış cevapladığımız sorularla ilgili konuları tekrar etmeniz sınavdaki başarılarınızı artırabilir.

Yaşamın İçinden Cumhuriyet

Yaşamın İçinden: Ünitelerde aktarılan kuramsal açıklamalar ile günlük yaşamımızda karşılaştığımız olaylar arasında ilişki kurmanızı sağlamak için verilmiş haber ve alıntılardır.

Yaşamın İçinden: Ünitelerde aktarılan kuramsal açıklamalar ile günlük yaşamımızda karşılaştığımız olaylar arasında ilişki kurmanızı sağlamak için verilmiş haber ve alıntılardır.

Kendimizi Sınayalım Yanıt Anahtarı

Kendimizi Sınayalım Yanıt Anahtarı: "Sıra Sizde"lerde yer alan soruların cevaplarını içerir. Her hangi bir Sıra Sizde sorusuna verdığınız cevap ile bu bölümdeki cevabı karşılaştırarak, ilgili konuyu ne ölçüde öğrendiğinizi belirleyebilirsiniz.

Kendimizi Sınayalım Yanıt Anahtarı: "Sıra Sizde"lerde yer alan soruların cevaplarını içerir. Her hangi bir Sıra Sizde sorusuna verdığınız cevap ile bu bölümdeki cevabı karşılaştırarak, ilgili konuyu ne ölçüde öğrendiğinizi belirleyebilirsiniz.

Yaşamın İçinden: Ünitelerde aktarılan kuramsal açıklamalar ile günlük yaşamımızda karşılaştığımız olaylar arasında ilişki kurmanızı sağlamak için verilmiş haber ve alıntılardır.

Sıra Sizde Yanıt Anahtarı:

"Sıra Sizde"lerde yer alan soruların cevaplarını içerir. Her hangi bir Sıra Sizde sorusuna verdığınız cevap ile bu bölümdeki cevabı karşılaştırarak, ilgili konuyu ne ölçüde öğrendiğinizi belirleyebilirsiniz.

Sıra Sizde Yanıt Anahtarı: "Sıra Sizde"lerde yer alan soruların cevaplarını içerir. Her hangi bir Sıra Sizde sorusuna verdığınız cevap ile bu bölümdeki cevabı karşılaştırarak, ilgili konuyu ne ölçüde öğrendiğinizi belirleyebilirsiniz.

Yararlanılan ve Başvurulabilecek Kaynaklar

Yararlanılan ve Başvurulabilecek Kaynaklar: İşlenen konulara ilişkin daha geniş bilgi edinmek isterseniz bu bölümde yer alan kaynakları inceleyebilirsiniz.

Yararlanılan ve Başvurulabilecek Kaynaklar: İşlenen konulara ilişkin daha geniş bilgi edinmek isterseniz bu bölümde yer alan kaynakları inceleyebilirsiniz.

Appendix F

t Test of Important Mean Scores by Gender

t Test of Importance Mean Scores by Gender

Table 19

Cognitive Support Services (t Test: Importance by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Local study centers						
Equal variances assumed	0.559	0.455	1.593	293	0.112	0.223
Equal variances not assumed			1.588	262.26	0.114	0.223
Face-to-face academic counseling (tutoring)						
Equal variances assumed	2.661	0.104	3.200	307	0.002**	0.268
Equal variances not assumed			3.119	251.29	0.002	0.268
Online academic counseling						
Equal variances assumed	0.426	0.514	-0.039	303	0.969	-0.005
Equal variances not assumed			-0.039	268.80	0.969	-0.005
Academic support through TV programs						
Equal variances assumed	0.130	0.719	0.395	309	0.693	0.053
Equal variances not assumed			0.394	278.49	0.694	0.053
Academic support through radio programs						
Equal variances assumed	0.676	0.412	0.538	307	0.591	0.063
Equal variances not assumed			0.542	284.54	0.588	0.063
Educational software produced by OES						
Equal variances assumed	0.217	0.642	0.578	301	0.563	0.075
Equal variances not assumed			0.581	278.20	0.562	0.075
Local computer labs						
Equal variances assumed	1.152	0.284	1.179	304	0.240	0.173
Equal variances not assumed			1.166	266.58	0.245	0.173
E-learning portal						
Equal variances assumed	1.287	0.257	2.386	304	0.018*	0.260
Equal variances not assumed			2.374	271.02	0.018	0.260
Online practice questions and tests						
Equal variances assumed	1.248	0.265	2.890	308	0.004**	0.241
Equal variances not assumed			2.809	248.43	0.005	0.241
Communication with course instructors						
Equal variances assumed	0.155	0.694	1.921	306	0.056	0.230
Equal variances not assumed			1.938	284.23	0.054	0.230

Table 20

Affective Support Services (t Test: Importance by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Promoting students' self-confidence						
Equal variances assumed	0.072	0.788	0.286	308	0.775	0.033
Equal variances not assumed			0.284	274.56	0.776	0.033
Promoting students' motivation						
Equal variances assumed	4.023	0.046	0.651	308	0.516	0.072
Equal variances not assumed			0.634	250.68	0.527	0.072
Overcoming students' educational concerns						
Equal variances assumed	2.715	0.100	0.317	305	0.752	0.037
Equal variances not assumed			0.310	253.76	0.757	0.037
Information about OES related activities						
Equal variances assumed	0.041	0.839	0.186	293	0.852	0.024
Equal variances not assumed			0.187	269.24	0.852	0.024
Promoting social interaction among students						
Equal variances assumed	1.216	0.271	-0.251	307	0.802	-0.035
Equal variances not assumed			-0.248	268.63	0.804	-0.035
Communication with other students						
Equal variances assumed	0.006	0.939	0.497	301	0.620	0.066
Equal variances not assumed			0.497	274.68	0.620	0.066

Table 21

Systemic Support Services (t Test: Importance by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Help with the admission/registration process						
Equal variances assumed	1.932	0.166	1.308	309	0.192	0.130
Equal variances not assumed			1.279	255.71	0.202	0.130
Assistance in overcoming technical problems						
Equal variances assumed	0.011	0.915	-0.931	307	0.352	-0.097
Equal variances not assumed			-0.930	275.95	0.353	-0.097
Orientation to the course media/delivery format of OES						
Equal variances assumed	12.457	0.000	2.635	306	0.009	0.239
Equal variances not assumed			2.563	246.00	0.011*	0.239
Administrative services provided at the Local OES Bureaus						
Equal variances assumed	0.078	0.780	0.241	309	0.809	0.023
Equal variances not assumed			0.240	274.14	0.811	0.023
Administrative services provided on the Internet						
Equal variances assumed	0.768	0.382	0.629	306	0.530	0.077
Equal variances not assumed			0.636	287.59	0.525	0.077
Mobile-Quest information services						
Equal variances assumed	0.500	0.480	-1.482	299	0.139	-0.203
Equal variances not assumed			-1.465	257.66	0.144	-0.203

Appendix G

t Test of Importance Mean Scores by Employment Status

t Test of Importance Mean Scores by Employment Status

Table 22

Cognitive Support Services (t Test: Importance by Employment Status)

	Levene's test		T-test for equality of means			Mean difference
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	
Local study centers						
Equal variances assumed	5.796	0.017	3.433	291	0.001	0.507
Equal variances not assumed			3.270	150.56	0.001**	0.507
Face-to-face academic counseling (tutoring)						
Equal variances assumed	1.477	0.225	0.435	305	0.664	0.040
Equal variances not assumed			0.450	190.13	0.653	0.040
Online academic counseling						
Equal variances assumed	0.081	0.776	1.962	301	0.051	0.285
Equal variances not assumed			1.962	173.40	0.051	0.285
Academic support through TV programs						
Equal variances assumed	0.075	0.784	-1.455	307	0.147	-0.212
Equal variances not assumed			-1.478	180.87	0.141	-0.212
Academic support through Radio programs						
Equal variances assumed	1.318	0.252	-1.124	305	0.262	-0.141
Equal variances not assumed			-1.099	166.20	0.274	-0.141
Educational software produced by OES						
Equal variances assumed	3.729	0.054	1.233	299	0.218	0.171
Equal variances not assumed			1.295	191.98	0.197	0.171
Local computer labs						
Equal variances assumed	1.538	0.216	1.311	302	0.191	0.208
Equal variances not assumed			1.342	182.96	0.181	0.208
E-learning portal						
Equal variances assumed	0.518	0.472	0.835	302	0.404	0.099
Equal variances not assumed			0.873	195.74	0.384	0.099
Online practice questions and tests						
Equal variances assumed	0.029	0.866	0.022	306	0.982	0.002
Equal variances not assumed			0.022	168.92	0.983	0.002
Communication with course instructors						
Equal variances assumed	0.309	0.579	2.630	304	0.009**	0.336
Equal variances not assumed			2.726	190.95	0.007	0.336

Table 23

Affective Support Services (t Test: Importance by Employment Status)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Promoting students' self-confidence						
Equal variances assumed	0.000	0.990	1.065	306	0.288	0.131
Equal variances not assumed			1.064	174.47	0.289	0.131
Promoting students' motivation						
Equal variances assumed	2.747	0.098	1.366	306	0.173	0.164
Equal variances not assumed			1.300	156.85	0.196	0.164
Overcoming students' educational concerns						
Equal variances assumed	1.552	0.214	1.012	303	0.312	0.127
Equal variances not assumed			1.046	186.50	0.297	0.127
Information about OES related activities						
Equal variances assumed	0.806	0.370	2.050	291	0.041*	0.281
Equal variances not assumed			2.112	169.99	0.036	0.281
Promoting social interaction among students						
Equal variances assumed	0.002	0.962	1.025	305	0.306	0.153
Equal variances not assumed			1.026	172.50	0.306	0.153
Communication with other students						
Equal variances assumed	0.061	0.806	2.145	299	0.033*	0.305
Equal variances not assumed			2.088	163.73	0.038	0.305

Table 24

Systemic Support Services (t Test: Importance by Employment Status)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Help with the admission/registration process						
Equal variances assumed	0.386	0.535	1.314	307	0.190	0.141
Equal variances not assumed			1.323	177.11	0.188	0.141
Assistance in overcoming technical problems						
Equal variances assumed	3.924	0.048	2.348	305	0.020	0.261
Equal variances not assumed			2.242	158.09	0.026*	0.261
Orientation to the course media/delivery format of OES						
Equal variances assumed	0.929	0.336	0.716	304	0.474	0.071
Equal variances not assumed			0.697	162.45	0.487	0.071
Administrative services provided at the Local OES Bureaus						
Equal variances assumed	0.068	0.794	1.488	307	0.138	0.151
Equal variances not assumed			1.508	179.83	0.133	0.151
Administrative services provided on the Internet						
Equal variances assumed	0.220	0.639	2.153	304	0.032*	0.280
Equal variances not assumed			2.191	182.84	0.030	0.280
Mobile-Quest information services						
Equal variances assumed	1.716	0.191	-0.132	297	0.895	-0.020
Equal variances not assumed			-0.137	182.87	0.891	-0.020

Appendix H

One-Way ANOVA of Importance Mean Scores by Study Time

One-Way ANOVA of Importance Mean Scores by Study Time

Table 25

Cognitive Support Services (ANOVA: Importance by Study Time)

	<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Local study centers					
Between groups	15.683	3	5.228	3.798	0.011*
Within groups	400.507	291	1.376		
Total	416.190	294			
Face-to-face academic counseling					
Between groups	0.273	3	0.091	0.165	0.920
Within groups	167.747	305	0.550		
Total	168.019	308			
Online academic counseling					
Between groups	10.829	3	3.610	2.709	0.045*
Within groups	401.105	301	1.333		
Total	411.934	304			
Academic support through TV programs					
Between groups	3.825	3	1.275	0.921	0.431
Within groups	425.018	307	1.384		
Total	428.842	310			
Academic support through radio programs					
Between groups	12.508	3	4.169	4.202	0.006**
Within groups	302.663	305	0.992		
Total	315.172	308			
Educational software produced by OES					
Between groups	10.786	3	3.595	2.993	0.031*
Within groups	359.201	299	1.201		
Total	369.987	302			
Local computer labs for student use					
Between groups	14.428	3	4.809	3.038	0.029*
Within groups	478.042	302	1.583		
Total	492.471	305			
E-learning portal					
Between groups	1.057	3	0.352	0.389	0.761
Within groups	273.469	302	0.906		

(table continues)

	<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Total	274.526	305			
Online practice questions and tests					
Between groups	2.199	3	0.733	1.370	0.252
Within groups	163.739	306	0.535		
Total	165.939	309			
Communication with course instructors					
Between groups	5.588	3	1.863	1.730	0.161
Within groups	327.217	304	1.076		
Total	332.805	307			

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Table 26

Affective Support Services (ANOVA: Importance by Study Time)

	<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Help with the admission/registration process					
Between groups	2.952	3	0.984	1.315	0.270
Within groups	229.794	307	0.749		
Total	232.746	310			
Assistance in overcoming technical problems					
Between groups	8.911	3	2.970	3.771	0.011*
Within groups	240.235	305	0.788		
Total	249.146	308			
Orientation to the course media/delivery format of OES					
Between groups	1.702	3	0.567	0.904	0.439
Within groups	190.817	304	0.628		
Total	192.519	307			
Administrative services provided at the Local OES Bureaus					
Between groups	4.910	3	1.637	2.485	0.061
Within groups	202.208	307	0.659		
Total	207.119	310			
Administrative services provided on the internet					
Between groups	8.873	3	2.958	2.691	0.046*
Within groups	334.150	304	1.099		
Total	343.023	307			
Mobile-quest information services					
Between groups	8.597	3	2.866	2.110	0.099
Within groups	403.390	297	1.358		
Total	411.987	300			

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Table 27

Systemic Support Services (ANOVA: Importance by Study Time)

	<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Counseling services to promote students' self-confidence					
Between groups	14.299	3	4.766	5.021	0.002**
Within groups	290.478	306	0.949		
Total	304.777	309			
Counseling services to promote students' motivation					
Between groups	3.729	3	1.243	1.335	0.263
Within groups	284.968	306	0.931		
Total	288.697	309			
Counseling services to overcome students' concerns about their education					
Between groups	13.237	3	4.412	4.505	0.004**
Within groups	296.789	303	0.980		
Total	310.026	306			
Information about OES related activities					
Between groups	10.003	3	3.334	2.931	0.034*
Within groups	331.035	291	1.138		
Total	341.037	294			
Activities to promote social interaction among OES students					
Between groups	7.987	3	2.662	1.872	0.134
Within groups	433.767	305	1.422		
Total	441.754	308			
Communication with other OES distance learners					
Between groups	11.650	3	3.883	3.040	0.029*
Within groups	381.973	299	1.278		
Total	393.624	302			

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Appendix I

t Test of Accessibility Mean Scores by Gender

t Test of Accessibility Mean Scores by Gender

Table 28

Cognitive Support Services (t Test: Accessibility by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Local study centers						
Equal variances assumed	0.347	0.556	1.558	294	0.120	0.173
Equal variances not assumed			1.594	286.21	0.112	0.173
Face-to-face academic counseling (tutoring)						
Equal variances assumed	0.000	0.998	2.433	308	0.016*	0.289
Equal variances not assumed			2.408	269.43	0.017	0.289
Online academic counseling						
Equal variances assumed	0.204	0.652	0.525	301	0.600	0.057
Equal variances not assumed			0.525	274.11	0.600	0.057
Academic support through TV programs						
Equal variances assumed	0.181	0.671	0.195	309	0.846	0.020
Equal variances not assumed			0.193	272.54	0.847	0.020
Academic support through radio programs						
Equal variances assumed	0.383	0.536	-0.872	307	0.384	-0.096
Equal variances not assumed			-0.873	279.54	0.384	-0.096
Educational software produced by OES						
Equal variances assumed	0.959	0.328	0.719	300	0.473	0.075
Equal variances not assumed			0.714	266.14	0.476	0.075
Local computer labs						
Equal variances assumed	0.521	0.471	-0.368	303	0.713	-0.041
Equal variances not assumed			-0.371	282.98	0.711	-0.041
E-learning portal						
Equal variances assumed	0.925	0.337	0.616	304	0.539	0.066
Equal variances not assumed			0.624	291.01	0.533	0.066
Online practice questions and tests						
Equal variances assumed	1.617	0.204	1.934	309	0.054	0.210
Equal variances not assumed			1.963	293.87	0.051	0.210
Communication with course instructors						
Equal variances assumed	1.834	0.177	-0.057	306	0.954	-0.006
Equal variances not assumed			-0.058	289.81	0.954	-0.006

Table 29

Affective Support Services (t Test: Accessibility by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Promoting students' self-confidence						
Equal variances assumed	3.369	0.067	-1.434	308	0.153	-0.136
Equal variances not assumed			-1.408	260.65	0.160	-0.136
Promoting students' motivation						
Equal variances assumed	0.039	0.844	-0.494	309	0.622	-0.048
Equal variances not assumed			-0.491	273.76	0.624	-0.048
Overcoming students' educational concerns						
Equal variances assumed	1.367	0.243	-1.498	305	0.135	-0.138
Equal variances not assumed			-1.476	260.06	0.141	-0.138
Information about OES-related activities						
Equal variances assumed	0.008	0.929	0.428	292	0.669	0.043
Equal variances not assumed			0.431	273.37	0.667	0.043
Promoting social interaction among students						
Equal variances assumed	0.985	0.322	0.304	305	0.761	0.032
Equal variances not assumed			0.306	284.93	0.760	0.032
Communication with other students						
Equal variances assumed	1.636	0.202	-0.203	301	0.839	-0.021
Equal variances not assumed			-0.207	291.81	0.836	-0.021

Table 30

Systemic Support Services (t Test: Accessibility by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Help with the admission/registration process						
Equal variances assumed	2.213	0.138	0.263	309	0.793	0.022
Equal variances not assumed			0.258	256.98	0.797	0.022
Assistance in overcoming technical problems						
Equal variances assumed	0.872	0.351	0.040	306	0.968	0.004
Equal variances not assumed			0.040	263.93	0.968	0.004
Orientation to the course media/delivery format of OES						
Equal variances assumed	0.002	0.965	0.596	306	0.552	0.062
Equal variances not assumed			0.595	274.59	0.552	0.062
Administrative services provided at the Local OES Bureaus						
Equal variances assumed	1.029	0.311	-1.155	308	0.249	-0.112
Equal variances not assumed			-1.169	289.24	0.243	-0.112
Administrative services provided on the Internet						
Equal variances assumed	0.303	0.582	-0.789	304	0.431	-0.084
Equal variances not assumed			-0.796	282.38	0.427	-0.084
Mobile-Quest information services						
Equal variances assumed	0.006	0.939	-1.434	295	0.153	-0.172
Equal variances not assumed			-1.438	270.39	0.152	-0.172

Appendix J

t Test of Accessibility Mean Scores by Employment Status

t Test of Accessibility Mean Scores by Employment Status

Table 31

Cognitive Support Services (t Test: Accessibility by Employment Status)

	Levene's test		T-test for equality of means			Mean difference
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	
Local study centers						
Equal variances assumed	0.337	0.562	3.029	292	0.003**	0.361
Equal variances not assumed			3.292	200.77	0.001	0.361
Face-to-face academic counseling (tutoring)						
Equal variances assumed	0.173	0.678	1.577	306	0.116	0.204
Equal variances not assumed			1.515	159.84	0.132	0.204
Online academic counseling						
Equal variances assumed	0.786	0.376	1.395	299	0.164	0.163
Equal variances not assumed			1.353	159.80	0.178	0.163
Academic support through TV programs						
Equal variances assumed	0.133	0.715	-0.233	307	0.816	-0.025
Equal variances not assumed			-0.234	176.05	0.815	-0.025
Academic support through radio programs						
Equal variances assumed	1.775	0.184	0.800	305	0.424	0.095
Equal variances not assumed			0.838	195.75	0.403	0.095
Educational software produced by OES						
Equal variances assumed	0.249	0.618	0.214	298	0.831	0.024
Equal variances not assumed			0.211	166.55	0.833	0.024
Local computer labs						
Equal variances assumed	7.764	0.006	0.120	301	0.905	0.015
Equal variances not assumed			0.128	204.21	0.898	0.015
E-learning portal						
Equal variances assumed	1.315	0.252	-0.117	302	0.907	-0.013
Equal variances not assumed			-0.112	161.89	0.911	-0.013
Online practice questions and tests						
Equal variances assumed	0.243	0.622	1.166	307	0.245	0.138
Equal variances not assumed			1.188	182.24	0.236	0.138
Communication with course instructors						
Equal variances assumed	0.193	0.661	0.500	304	0.618	0.059
Equal variances not assumed			0.504	179.35	0.615	0.059

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Table 32

Affective Support Services (t Test: Accessibility by Employment Status)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Promoting students' self-confidence						
Equal variances assumed	0.079	0.779	-0.869	306	0.386	-0.089
Equal variances not assumed			-0.871	175.64	0.385	-0.089
Promoting students' motivation						
Equal variances assumed	1.676	0.196	0.292	307	0.771	0.031
Equal variances not assumed			0.298	183.79	0.766	0.031
Overcoming students' educational concerns						
Equal variances assumed	0.752	0.387	-0.035	303	0.972	-0.003
Equal variances not assumed			-0.036	181.50	0.972	-0.003
Information about OES-related activities						
Equal variances assumed	0.034	0.853	1.718	290	0.087	0.188
Equal variances not assumed			1.739	163.54	0.084	0.188
Promoting social interaction among students						
Equal variances assumed	8.320	0.004	2.016	303	0.045	0.229
Equal variances not assumed			2.217	217.79	0.028*	0.229
Communication with other students						
Equal variances assumed	0.778	0.378	-0.489	299	0.625	-0.055
Equal variances not assumed			-0.478	165.42	0.633	-0.055

Table 33

Systemic Support Services (t Test: Accessibility by Employment Status)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Help with the admission/registration process						
Equal variances assumed	1.660	0.199	0.495	307	0.621	0.045
Equal variances not assumed			0.498	176.95	0.619	0.045
Assistance in overcoming technical problems						
Equal variances assumed	2.025	0.156	1.987	304	0.048**	0.217
Equal variances not assumed			1.917	159.25	0.057	0.217
Orientation to the course media/delivery format of OES						
Equal variances assumed	0.027	0.869	1.833	304	0.068	0.205
Equal variances not assumed			1.817	168.99	0.071	0.205
Administrative services provided at the local OES bureaus						
Equal variances assumed	0.458	0.499	1.061	306	0.290	0.111
Equal variances not assumed			1.084	183.59	0.280	0.111
Administrative services provided on the internet						
Equal variances assumed	0.031	0.861	-0.045	302	0.964	-0.005
Equal variances not assumed			-0.045	172.94	0.964	-0.005
Mobile-quest information services						
Equal variances assumed	2.000	0.158	0.020	293	0.984	0.003
Equal variances not assumed			0.021	181.34	0.983	0.003

Appendix K

One-Way ANOVA of Accessibility Mean Scores by Study Time

One-Way ANOVA of Accessibility Mean Scores by Study Time

Table 34

Cognitive Support Services (ANOVA: Accessibility by Study Time)

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Local study centers with comfortable working arrangements					
Between groups	3.008	3	1.003	1.119	0.342
Within groups	261.628	292	0.896		
Total	264.635	295			
Face-to-face academic counseling					
Between groups	5.261	3	1.754	1.623	0.184
Within groups	330.687	306	1.081		
Total	335.948	309			
Online academic counseling through e-learning portal					
Between groups	0.474	3	0.158	0.181	0.909
Within groups	260.740	299	0.872		
Total	261.215	302			
Academic support through TV programs					
Between groups	3.036	3	1.012	1.330	0.265
Within groups	233.601	307	0.761		
Total	236.637	310			
Academic support through radio programs					
Between groups	4.694	3	1.565	1.729	0.161
Within groups	276.005	305	0.905		
Total	280.699	308			
Educational software produced by OES					
Between groups	5.194	3	1.731	2.181	0.090
Within groups	236.505	298	0.794		
Total	241.699	301			
Local computer labs for student use					
Between groups	2.227	3	0.742	0.787	0.502
Within groups	284.022	301	0.944		
Total	286.249	304			
Access to digital copies of texts and TV programs videos					
Between groups	0.950	3	0.317	0.372	0.773
Within groups	257.079	302	0.851		

(table continues)

	<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Total	258.029	305			
Online practice questions and tests through e-learning portal					
Between groups	3.813	3	1.271	1.415	0.238
Within groups	275.704	307	0.898		
Total	279.518	310			
Communication with course instructors					
Between groups	2.449	3	0.816	0.899	0.442
Within groups	276.084	304	0.908		
Total	278.532	307			

Table 35

Affective Support Services (ANOVA: Accessibility by Study Time)

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Counseling services to promote students' self-confidence					
Between groups	0.199	3	0.066	0.096	0.962
Within groups	211.749	306	0.692		
Total	211.948	309			
Counseling services to promote students' motivation					
Between groups	3.597	3	1.199	1.696	0.168
Within groups	217.014	307	0.707		
Total	220.611	310			
Counseling services to overcome students' concerns about their education					
Between groups	0.646	3	0.215	0.337	0.799
Within groups	193.621	303	0.639		
Total	194.267	306			
Information about OES-related activities					
Between groups	1.245	3	0.415	0.566	0.638
Within groups	212.772	290	0.734		
Total	214.017	293			
Activities to promote social interaction among OES students					
Between groups	0.113	3	0.038	0.045	0.987
Within groups	255.679	303	0.844		
Total	255.792	306			
Communication with other OES distance learners					
Between groups	1.135	3	0.378	0.474	0.700
Within groups	238.534	299	0.798		
Total	239.670	302			

Table 36

Systemic Support Services (ANOVA: Accessibility by Study Time)

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Help with the admission/registration process					
Between groups	1.263	3	0.421	0.774	0.509
Within groups	167.065	307	0.544		
Total	168.328	310			
Assistance in overcoming technical problems					
Between groups	0.590	3	0.197	0.254	0.858
Within groups	235.112	304	0.773		
Total	235.701	307			
Orientation to the course media/delivery format of OES					
Between groups	1.494	3	0.498	0.618	0.604
Within groups	244.957	304	0.806		
Total	246.451	307			
Administrative services provided at the local OES bureaus					
Between Groups	2.332	3	0.777	1.096	0.351
Within Groups	216.923	306	0.709		
Total	219.255	309			
Administrative services provided on the internet					
Between groups	1.285	3	0.428	0.510	0.676
Within groups	253.829	302	0.840		
Total	255.114	305			
Mobile-quest information services					
Between groups	5.073	3	1.691	1.634	0.182
Within groups	303.317	293	1.035		
Total	308.391	296			

Appendix L

t Test of Needs-Gap Mean Scores by Gender

t Test of Needs-Gap Mean Scores by Gender

Table 37

Cognitive Support Services (t Test: Needs Gap by Gender)

	Levene's test		T-test for equality of means			<i>Mean difference</i>
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	
Local study centers						
Equal variances assumed	0.235	0.628	0.539	291	0.591	0.083
Equal variances not assumed			0.542	271.33	0.588	0.083
Face-to-face academic counseling (tutoring)						
Equal variances assumed	0.457	0.500	-0.094	307	0.925	-0.012
Equal variances not assumed			-0.094	279.40	0.925	-0.012
Online academic counseling						
Equal variances assumed	0.125	0.724	-0.517	301	0.605	-0.073
Equal variances not assumed			-0.515	269.64	0.607	-0.073
Academic support through TV programs						
Equal variances assumed	0.001	0.974	0.250	309	0.802	0.034
Equal variances not assumed			0.250	279.57	0.803	0.034
Academic support through radio programs						
Equal variances assumed	1.047	0.307	1.121	307	0.263	0.159
Equal variances not assumed			1.132	287.45	0.259	0.159
Educational software produced by OES						
Equal variances assumed	0.323	0.570	0.095	300	0.924	0.013
Equal variances not assumed			0.095	278.44	0.924	0.013
Local computer labs						
Equal variances assumed	1.025	0.312	1.280	303	0.201	0.222
Equal variances not assumed			1.278	273.66	0.203	0.222
E-learning portal						
Equal variances assumed	2.492	0.116	1.438	303	0.152	0.190
Equal variances not assumed			1.467	293.41	0.143	0.190
Online practice questions and tests						
Equal variances assumed	0.506	0.478	0.178	308	0.859	0.022
Equal variances not assumed			0.176	271.66	0.860	0.022
Communication with course instructors						
Equal variances assumed	3.013	0.084	1.655	306	0.099	0.236
Equal variances not assumed			1.686	292.49	0.093	0.236

Table 38

Affective Support Services (t Test: Needs Gap by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Promoting students' self-confidence						
Equal variances assumed	2.454	0.118	1.331	308	0.184	0.169
Equal variances not assumed			1.364	300.85	0.174	0.169
Promoting students' motivation						
Equal variances assumed	0.021	0.884	0.911	308	0.363	0.121
Equal variances not assumed			0.908	276.13	0.365	0.121
Overcoming students' educational concerns						
Equal variances assumed	0.447	0.504	1.302	305	0.194	0.175
Equal variances not assumed			1.320	288.71	0.188	0.175
Information about OES-related activities						
Equal variances assumed	0.611	0.435	0.010	290	0.992	0.001
Equal variances not assumed			0.010	277.15	0.992	0.001
Promoting social interaction among students						
Equal variances assumed	0.008	0.927	-0.400	305	0.690	-0.062
Equal variances not assumed			-0.401	283.99	0.688	-0.062
Communication with other students						
Equal variances assumed	0.444	0.506	0.631	301	0.529	0.087
Equal variances not assumed			0.632	275.53	0.528	0.087

Table 39

Systemic Support Services (t Test: Needs Gap by Gender)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Help with the admission/registration process						
Equal variances assumed	0.746	0.388	0.945	309	0.345	0.108
Equal variances not assumed			0.948	283.24	0.344	0.108
Assistance in overcoming technical problems						
Equal variances assumed	1.370	0.243	-0.742	306	0.459	-0.090
Equal variances not assumed			-0.753	289.03	0.452	-0.090
Orientation to the course media/delivery format of OES						
Equal variances assumed	0.781	0.377	1.537	306	0.125	0.177
Equal variances not assumed			1.520	264.37	0.130	0.177
Administrative services provided at the local OES bureaus						
Equal variances assumed	1.185	0.277	1.153	308	0.250	0.129
Equal variances not assumed			1.164	287.01	0.245	0.129
Administrative services provided on the internet						
Equal variances assumed	3.191	0.075	1.214	304	0.226	0.159
Equal variances not assumed			1.262	301.69	0.208	0.159
Mobile-quest information services						
Equal variances assumed	1.099	0.295	-0.179	295	0.858	-0.028
Equal variances not assumed			-0.182	280.76	0.856	-0.028

Appendix M

t Test of Needs-Gap Mean Scores by Employment Status

t Test of Needs-Gap Mean Scores by Employment Status

Table 40

Cognitive Support Services (t Test: Needs Gap by Employment Status)

	Levene's test		T-test for equality of means			<i>Mean difference</i>
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	
Local study centers						
Equal variances assumed	4.740	0.030	0.752	289	0.452	0.125
Equal variances not assumed			0.708	144.90	0.480	0.125
Face-to-face academic counseling (tutoring)						
Equal variances assumed	0.565	0.453	-1.139	305	0.256	-0.156
Equal variances not assumed			-1.136	173.96	0.258	-0.156
Online academic counseling						
Equal variances assumed	4.580	0.033	0.697	299	0.486	0.106
Equal variances not assumed			0.646	145.30	0.519	0.106
Academic support through TV programs						
Equal variances assumed	2.843	0.093	-1.279	307	0.202	-0.187
Equal variances not assumed			-1.282	175.33	0.201	-0.187
Academic support through radio programs						
Equal variances assumed	0.278	0.598	-1.550	305	0.122	-0.236
Equal variances not assumed			-1.570	180.29	0.118	-0.236
Educational software produced by OES						
Equal variances assumed	0.488	0.485	1.068	298	0.286	0.158
Equal variances not assumed			1.090	179.82	0.277	0.158
Local computer labs						
Equal variances assumed	0.042	0.838	1.014	301	0.311	0.190
Equal variances not assumed			1.009	171.48	0.314	0.190
E-learning portal						
Equal variances assumed	0.562	0.454	0.803	301	0.422	0.114
Equal variances not assumed			0.777	163.49	0.438	0.114
Online practice questions and tests						
Equal variances assumed	2.472	0.117	-0.900	306	0.369	-0.121
Equal variances not assumed			-0.949	194.59	0.344	-0.121
Communication with course instructors						
Equal variances assumed	6.666	0.010	1.810	304	0.071	0.277
Equal variances not assumed			1.937	206.67	0.054	0.277

Table 41

Affective Support Services (t Test: Needs Gap by Employment Status)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Promoting students' self-confidence						
Equal variances assumed	1.359	0.245	1.605	306	0.110	0.220
Equal variances not assumed			1.679	194.63	0.095	0.220
Promoting students' motivation						
Equal variances assumed	0.002	0.969	0.930	306	0.353	0.133
Equal variances not assumed			0.953	184.90	0.342	0.133
Overcoming students' educational concerns						
Equal variances assumed	2.114	0.147	0.897	303	0.371	0.130
Equal variances not assumed			0.964	205.22	0.336	0.130
Information about OES-related activities						
Equal variances assumed	1.858	0.174	0.607	288	0.544	0.092
Equal variances not assumed			0.619	167.12	0.537	0.092
Promoting social interaction among students						
Equal variances assumed	1.665	0.198	-0.425	303	0.671	-0.072
Equal variances not assumed			-0.446	193.64	0.656	-0.072
Communication with other students						
Equal variances assumed	0.002	0.966	2.439	299	0.015*	0.360
Equal variances not assumed			2.496	183.71	0.013	0.360

Table 42

Systemic Support Services (t Test: Needs Gap by Employment Status)

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Help with the admission/registration process						
Equal variances assumed	1.237	0.267	0.779	307	0.436	0.096
Equal variances not assumed			0.795	182.57	0.428	0.096
Assistance in overcoming technical problems						
Equal variances assumed	0.867	0.353	0.469	304	0.639	0.062
Equal variances not assumed			0.467	170.40	0.641	0.062
Orientation to the course media/delivery format of OES						
Equal variances assumed	3.464	0.064	-1.069	304	0.286	-0.134
Equal variances not assumed			-0.996	148.25	0.321	-0.134
Administrative services provided at the Local OES Bureaus						
Equal variances assumed	0.018	0.893	0.354	306	0.723	0.043
Equal variances not assumed			0.365	187.15	0.716	0.043
Administrative services provided on the Internet						
Equal variances assumed	0.073	0.788	1.989	302	0.048	0.279
Equal variances not assumed			2.051	185.96	0.042	0.279
Mobile-Quest information services						
Equal variances assumed	0.047	0.829	-0.121	293	0.903	-0.020
Equal variances not assumed			-0.122	167.89	0.903	-0.020

Appendix N

One-Way ANOVA of Needs-Gap Mean Scores by Study Time

One-Way ANOVA of Needs-Gap Mean Scores by Study Time

Table 43

Cognitive Support Services (ANOVA: Needs Gap by Study Time)

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Local study centers with comfortable working arrangements					
Between groups	13.260	3	4.420	2.635	0.050
Within groups	484.829	289	1.678		
Total	498.089	292			
Face-to-face academic counseling					
Between groups	3.682	3	1.227	1.009	0.389
Within groups	371.004	305	1.216		
Total	374.686	308			
Online academic counseling through e-learning portal					
Between groups	15.193	3	5.064	3.580	0.014*
Within groups	422.992	299	1.415		
Total	438.185	302			
Academic support through TV programs					
Between groups	4.598	3	1.533	1.108	0.346
Within groups	424.585	307	1.383		
Total	429.183	310			
Academic support through radio programs					
Between groups	3.554	3	1.185	0.782	0.505
Within groups	462.200	305	1.515		
Total	465.754	308			
Educational software produced by OES					
Between groups	12.987	3	4.329	3.159	0.025*
Within groups	408.351	298	1.370		
Total	421.338	301			
Local computer labs for student use					
Between groups	16.557	3	5.519	2.504	0.059
Within groups	663.456	301	2.204		
Total	680.013	304			
Access to digital copies of texts and TV programs videos					
Between groups	0.106	3	0.035	0.027	0.994
Within groups	396.176	301	1.316		

(table continues)

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Total	396.282	304			
Online practice questions and tests through e-learning portal					
Between groups	0.707	3	0.236	0.203	0.894
Within groups	355.567	306	1.162		
Total	356.274	309			
Communication with course instructors					
Between groups	1.407	3	0.469	0.303	0.823
Within groups	470.814	304	1.549		
Total	472.221	307			

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Table 44

Affective Support Services (ANOVA: Needs Gap by Study Time)

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Promoting students' self-confidence					
Between groups	14.351	3	4.784	4.025	0.008**
Within groups	363.716	306	1.189		
Total	378.068	289			
Promoting students' motivation					
Between groups	4.820	3	1.607	1.215	0.305
Within groups	404.758	306	1.323		
Total	409.577	309			
Overcoming students' educational concerns					
Between groups	15.065	3	5.022	3.822	0.010*
Within groups	398.120	303	1.314		
Total	413.186	306			
Information about OES-related activities					
Between groups	11.775	3	3.925	2.901	0.035*
Within groups	389.731	288	1.353		
Total	401.507	291			
Promoting social interaction among students					
Between groups	7.283	3	2.428	1.350	0.258
Within groups	544.822	303	1.798		
Total	552.104	306			
Communication with other students					
Between groups	19.031	3	6.344	4.673	0.003**
Within groups	405.907	299	1.358		
Total	424.937	302			

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Table 45

Systemic Support Services (ANOVA: Needs Gap by Study Time)

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Help with the admission/registration process					
Between groups	7.569	3	2.523	2.602	0.052
Within groups	297.704	307	0.970		
Total	305.273	289			
Promoting students' motivation					
Between groups	8.653	3	2.884	2.656	0.049*
Within groups	330.152	304	1.086		
Total	338.805	307			
Overcoming students' educational concerns					
Between groups	6.051	3	2.017	2.039	0.108
Within groups	300.686	304	0.989		
Total	306.737	307			
Information about OES-related activities					
Between groups	7.127	3	2.376	2.530	0.057
Within groups	287.311	306	0.939		
Total	294.439	309			
Promoting social interaction among students					
Between groups	8.620	3	2.873	2.262	0.081
Within groups	383.632	302	1.270		
Total	392.252	305			
Communication with other students					
Between groups	1.694	3	0.565	0.318	0.812
Within groups	519.747	293	1.774		
Total	521.441	296			

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Appendix O

t Test and ANOVA of Academic Resource Use Mean Scores

t Test and ANOVA of Academic Resource Use Mean Scores

Table 46

t Test of Academic Resource Use by Gender

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Textbooks offered by OES						
Equal variances assumed	0.011	0.917	2.200	309	0.029*	0.321
Equal variances not assumed			2.193	277.09	0.029	0.321
Online resources offered by OES e-learning portal						
Equal variances assumed	0.001	0.976	1.746	308	0.082	0.252
Equal variances not assumed			1.740	274.32	0.083	0.252
Face-to-face tutoring offered by OES						
Equal variances assumed	0.826	0.364	3.754	308	0.000**	0.512
Equal variances not assumed			3.803	290.19	0.000	0.512
TV programs offered by OES						
Equal variances assumed	1.281	0.259	0.827	309	0.409	0.096
Equal variances not assumed			0.830	284.25	0.407	0.096
Radio programs offered by OES						
Equal variances assumed	0.908	0.341	0.389	309	0.697	0.021
Equal variances not assumed			0.401	304.49	0.688	0.021
Supplementary resources prepared by other people or institutions						
Equal variances assumed	7.730	0.006	2.112	309	0.035	0.322
Equal variances not assumed			2.069	257.52	0.040*	0.322
Supplementary tutoring offered by private institutions						
Equal variances assumed	0.185	0.667	-1.884	308	0.061	-0.284
Equal variances not assumed			-1.888	280.09	0.060	-0.284

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Table 47

t Test of Academic Resource Use by Employment Status

	Levene's test		T-test for equality of means			
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>Mean difference</i>
Textbooks offered by OES						
Equal variances assumed	7.114	0.008	0.105	307	0.916	0.017
Equal variances not assumed			0.112	204.18	0.911	0.017
Online resources offered by OES e-learning portal						
Equal variances assumed	3.035	0.083	0.421	306	0.674	0.066
Equal variances not assumed			0.433	183.28	0.666	0.066
Face-to-face tutoring offered by OES						
Equal variances assumed	1.091	0.297	3.381	306	0.001**	0.502
Equal variances not assumed			3.287	161.54	0.001	0.502
TV programs offered by OES						
Equal variances assumed	0.108	0.742	-0.805	307	0.421	-0.102
Equal variances not assumed			-0.772	159.15	0.441	-0.102
Radio programs offered by OES						
Equal variances assumed	11.224	0.001	-1.896	307	0.059	-0.110
Equal variances not assumed			-1.759	148.66	0.081	-0.110
Supplementary resources prepared by other people or institutions						
Equal variances assumed	1.911	0.168	2.787	307	0.006**	0.454
Equal variances not assumed			2.700	162.61	0.008	0.454
Supplementary tutoring offered by private institutions						
Equal variances assumed	0.270	0.604	-2.068	306	0.039*	-0.337
Equal variances not assumed			-2.092	176.30	0.038	-0.337

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Table 48

One-way ANOVA of Academic Resource Use by Study Time

	<i>SS</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>p</i>
Textbooks offered by OES					
Between groups	17.357	3	5.786	3.632	0.013*
Within groups	489.016	307	1.593		
Total	506.373	310			
Online resources offered by OES e-learning portal					
Between groups	4.003	3	1.334	0.844	0.471
Within groups	483.897	306	1.581		
Total	487.900	309			
Face-to-face tutoring offered by OES					
Between groups	38.089	3	12.696	9.382	0.000**
Within groups	414.105	306	1.353		
Total	452.194	309			
TV programs offered by OES					
Between groups	0.606	3	0.202	0.194	0.900
Within groups	319.343	307	1.040		
Total	319.949	310			
Radio programs offered by OES					
Between groups	0.554	3	0.185	0.842	0.472
Within groups	67.362	307	0.219		
Total	67.916	310			
Supplementary resources prepared by other people or institutions					
Between groups	8.495	3	2.832	1.600	0.189
Within groups	543.448	307	1.770		
Total	551.942	310			
Supplementary tutoring offered by private institutions					
Between Groups	104.882	3	34.961	24.857	0.000**
Within Groups	430.373	306	1.406		
Total	535.255	309			

Note. * $p < .05$, two-tailed test. ** $p < .01$, two-tailed test.

Appendix P

Key Attributes of Three Group Processes

Table 49

Key Attributes of Three Group Processes (Witkins and Altschuld, 1995)

Attributes	Community forum	Nominal group	Focus group
General structure	Large-group discussion format (many techniques may be used)	Small-group technique with limited interaction	Small-group interview with a limited set of questions
Purpose in NA	Obtaining ideas regarding various aspects of NA	Generation and prioritization of needs and concerns	Obtaining perceptions and views (not consensus) regarding an issue
Approximate size of group	50 or fewer	10 or fewer	8 to 12
Sampling concerns	Heterogeneous, but variations are possible	Heterogeneous, but variations are possible (don't mix super-and subordinates)	Usually homogeneous in accord with the area of concern
Outcomes	Ideas, views, worksheets, votes, depending on purpose and technique used	List of ideas and group views in order of priority	Individual and group perspectives on a focused area or theme
Advantages	Face-to-face discussion, multiple views, demonstrates interest in the community	Many ideas produced, priorities established and discussed, limited chance for dominance by one person	Perspectives on how an issue is probed in depth
Disadvantages	Must make many arrangements in advance, possible dominance by one or two persons, possible conflicts in groups.	Ideas are produced on the spot rather than over time, rigorous enforcement of rules, limited ability to generalize from a small group.	Requires expert leadership and more than one group for reliable results.

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PUBLICATIONS AND PRESENTATIONS

- Ozoglu, M. (2003, June). Overcoming barriers between us and our tutees. Paper presented at the Action Research Conference. Denver, Colorado.
- Ozoglu, M. (2004, October). Creating Interactive Assessment Tools in PowerPoint. Poster presentation at the *Association for Educational Communications & Technology. Leadership & Technology International Convention*. Chicago, Illinois.
- Gur, B., Aydin, S. & Ozoglu, M. (2004, October). A Critical Approach to the Terms ‘Negotiation’ and ‘Consensus’ in Social Constructivist Learning Environments. Round table discussion at the *Association for Educational Communications & Technology. Leadership & Technology International Convention*. Chicago, Illinois.

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