TEACHERS' COMPUTER USE AND EXPECTATIONS AND INSIGHTS OF
TEACHERS TOWARD "BILGIYE ERIŞIM PORTALI"

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ABSTRACT

TEACHERS' COMPUTER USE AND EXPECTATIONS AND INSIGHTS OF TEACHERS TOWARD "BILGIYE ERIŞIM PORTALI"

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This purpose of this study is to find out the teachers' perceived computer competencies and their expectations toward "Bilgiye Erişim Portalı" prepared by Ministry of National Education.

Study focused on 30 teachers and 5 administrators from six different schools in Ankara in 2005-2006 fall semester. A none-experimental descriptive survey research design was employed by administrating a 5-point Likert type Computer Competency Scale and an open-ended interview schedule.

The statistical analysis of the data obtained through the Likert type scale questionnaire indicated that the teachers feel themselves partially competent about computers. The highest mean score for scale was observed for in Word Processing, and the lowest mean score was observed in Presentation and Desktop Publishing Software.

It was also demonstrated that there was no significant difference between having a computer course and buying notebook given by MONE and computer competency score.

It was found that although there was no significant difference in teachers' perceived computer competencies in terms of gender, male teachers had higher mean scores than female teachers.

It was revealed that the less experienced teachers' mean scores are higher than the more experienced teachers' mean scores. Even though there obtained differences in possession of computer at home and at school, it was not determined as a significant factor.

The analysis of the qualitative data assisted the identification of expectations of teachers toward "Bilgiye Erişim Portalı".

Under the light of the study results recommendations are suggested for both implication and further studies.

Keywords: Teachers' perceived computer competency, Bilgiye Erişim Portalı

ÖZET

ÖĞRETMENLERİN BİLGİSAYAR KULLANIM DÜZEYLERİ
VE
BİLGİYE ERİŞİM PORTALI HAKKINDAKİ BEKLENTİ VE DÜŞÜNCELERİ

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Bu çalışmanın amacı Türkiye'deki öğretmenlerin bilgisayar kullanmayı ne kadar bildiklerini ve Milli Eğitim Bakanlığı tarafından hazırlanan "Bilgiye Erişim Portalı" hakkındaki beklenti ve düşüncelerini araştırmaktır.

Çalışma 2005 – 2006 Güz döneminde, Ankara'da 6 farklı okuldaki 30 öğretmen ve 5 yöneticiyi içermektedir. Çalışma deseni olarak deneysel olmayan tanımlayıcı, 5- puanlı Likert tipi Algılanan Bilgisayar Yeterlilik Ölçeği ve görüşme anketi kullanılmasına dayanan bir yöntem uygulanmıştır.

Anket uygulamasından elde edilen verilerin analizi, öğretmenlerin çoğunluğunun bilgisayar konusunda kendilerini kısmen yetkin hissettiklerini göstermektedir. Bilgisayar Yeterlilik Ölçeği için en yüksek ortalama Kelime İşlemci Programlarında, en düşük ortalama ise Sunum ve Masaüstü Yayıncılık Programlarında gözlenmektedir.

Bilgisayar kursu almış olmak ve MEB'nın vermiş olduğu dizüstü bilgisayarı satın almakla bilgisayar yeterlilik düzeyi arasında bir ilişki gözlenmemiştir.

Öğretmenlerin algılanan bilgisayar yeterlilikleri ile cinsiyet arasında bir ilişki gözlenmemesine karşın, erkek öğretmenlerin kadın öğretmenlerden daha yüksek ortalamaya sahip oldukları gözlenmişidir.

Öğretmenlikte daha az tecrübeli öğretmenlerin daha fazla tecrübeli öğretmenlere oranla daha yüksek ortalamaya sahip oldukları gözlenmiştir. Her ne kadar, evde ve okulda bilgisayara sahip olma hususunda farklılaşma gözlense de, bunun bilgisayar yeterliliğine manidar bir katkıda bulunmadığı gözlenmiştir.

Nitel verilerin analizi, öğretmenlerin Milli Eğitim Bakanlığı tarafından hazırlanan Bilgiye Erişim Portalı hakkındaki beklenti ve düşüncelerini belirlemeye yardımcı olmuştur.

Çalışmanın sonuçlarından yola çıkılarak uygulamaya ve gelecek çalışmalara yönelik öneriler sunulmuştur.

Anahtar Kelimeler: Öğretmenlerin algılanan bilgisayar yeterliliği, Bilgiye Erişim Portalı

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INTRODUCTION

1.1   Background to the Study

Rapid development in technology have had a huge impact on teaching and learning process; and it increased the instructional alternatives in schools and made it necessary to change the instructional programs. If used properly and effectively, technology can facilitate and enhance students learning, provide assistance to teachers and educational administrators. In line with developments in technology, the expectations from schools, teachers and students have been changing. The rapid pace of technological changes that has been taking place in our society and within our school systems has made it difficult for teachers to keep up with the latest developments.

In last years, the goal of many countries in educational area includes the combination of instructional programs with computer technologies (Plomp, Anderson and Kontogiannopoulou - Polydorides, 1996). However, this decision is not only related with the type of hardware and software which will be used in schools. Main issue is more complicated and contains in- service training, instructional programs about the effective use of technology in education, and the physical environment to be design (Collins, 1990).

When defining their educational policies, many countries make decisions in order to provide the students to get ready to a technological society. Therefore, the use of computers in education is considered as the first step of a long process (Plomp et al., 1996). For example, in the US, the schools have equipped with many technological innovations in order to increase the productivity of both students and teachers.

However, Office of Technology Assessment (OTA) underlines the fact that still the very small part of the teachers uses the technology effectively(OTA, 1995). The main reason of lack of use of technology is related with teachers' inability in using technology in their classes and lack of ability in integrating technology into their lessons.

It is clear that most of current teachers did not meet with Information and Communications Technologies (ICTs) in their own K-12 education or even in their teacher training programs. Thus, these teachers have not experienced with using the computer as a learning resource or as a model in educational situations. Unfortunately, since they were not the children of third millennium, most of the teachers are anxious about computers and related technologies and are willingness to integrate them into their classrooms (Hunt & Bohlin, 1993).

Up to the advancement of new technologies in education, teacher was the only one who knew everything and passed it on to the students. We are definitely beginning an era where students have the same access to an incredible amount of information the same as their teachers. Under the light of this necessity, computer technology has been perceived as an important issue and the argument about whether or not teachers are adequately trained to use computer technology into their classroom has turn out to be a major concern and research issue of most scholars (Andrews, 1996; Boshuizen & Wopereis, 2003; Chafy, 1997; Crawford, 2000; Cuckle & Clarke, 2002; Davis, 2000, 2002, 2003; Dean, 2000; Ellis, 2003; Fisher, 1996, 2000; Gurbuz,Yildirim & Ozden, 2001; Hunt & Bohlin, 1993; Jarvis & Rennie, 1998; Kortecamp & Croninger, 1996; Lea, 1999; McDonald, 2002; Murphy & Greenwood, 1998; Ritchie & Rodriguez, 1996; Whetstone & Carr-Chellman, 2001; Willis & Mehlinger, 1996; Woodrow, 1991, 1992; Yildirim, 2000). It is vital for our teachers to learn about modern technology in order to effectively function in schools. Thus, teachers need to be competent in representing the various technological applications for the advantage of the students. Effectively integrating the new technology into the classroom could be the biggest challenge for the prospective educational systems (Nanasy, 2001).

The systematic introduction of computers into classrooms began in the 1980s (Hornung, 2002). The utilization of technology for teaching and learning has evolved from Skinner's programmed instruction to highly interactive multimedia and e-learning environments. With the advancement of new learning theories, schools are beginning to comprehend the potential for technology to help students construct their own meaning based on learning activities where they are presented with opportunities to perform with and learn in technologies. Subsequent to the understanding the benefits of ICTs in schools, the term technology integration into education is debated as a re-creation or re-organization of the learning environment with computers and related technologies. A point is emphasized for the technology integration that it must be perceived as a function rather that an application, and a process rather than an approach (Mills & Tincher, 2003).

ICT integration and utilization in the schools represent a new professional role as being a sign of the changes in teaching profession. This role changing embraces various competencies related to technology and their integration into real-life school environments. These technology competencies relating with education define what a teacher has to know and has to do in order to provide successful education.

In the history of education, educators sometimes were confused about equipping the physical environment and equipping the teachers. However, while technology becomes more readily available, it is appreciated that successful technology integration is not just about purchasing and installing hardware and software in learning environments (Lippman, 1997). It is acutely identified that what the educational change makes possible, is the human factor (Tobin, 1996). It is not possible to imagine any progress in education without giving careful attention to the role of teachers. Even though most of times, teachers are expressing that they love their jobs and fun with working with children, this does not indicate that teachers have been automatically supporting all changes in schools (Bergen, 2003). Therefore, we should primarily attempt to convince them on the benefits of school changes, besides; this will only be achieved with the identification of their preoccupations.

There is extreme amount of researches concerning of training of teachers that is necessary to assist them integrate ICTs more effectively into their teaching. For instances; the report "Teachers as Innovators" (2000) noted that teachers value many different forms of training. It is mostly emphasized that the content of training should meet the requirements of teachers in accordance with their ICT proficiencies and experiences, professional roles, and access to ICT resources. On the other hand, Chauve (2003) pointed that teachers perceive any additional training as an additional work load in schools. Simultaneously, teachers should not only be persuaded on the possible advantages and drawbacks of ICT in education, but also be persuaded to spend time using this technology.

Pellegrino and Altman (1997) acknowledged relative inability to effectively utilize powerful ICTs to support learning and teaching. They proposed some factors concerning the responsibilities of the current state of affairs, including the inconsistent and frequently disorganized process by which technology is acquired and implemented in schools. Even though teachers dominantly believed that technology provides advantages for both themselves and students, a major problem is still enduring; teachers' lack of adequate knowledge of how to use technology effectively to support their own teaching and their students' learning (Bruder, 1989; Brush et al., 2003; Ellis, 2003; Mendels, 1999; Nanjappa, 2003; Novick, 2003; Russell G., Finger & Russell N., 2000; Willis & Mehlinger, 1996).

Similar to other countries in Turkey, the projects related with the use of computer technology in schools have been started recently (Cagiltay, Askar and Ozgit, 1995). The main goals of these projects are bringing the computers and internet access to public schools, the training of teachers about the use of computers, and combining information technology with educational system. These projects are quite great and important projects in terms of both budget and scope. The success of these projects depends on the teachers who play the most important role in the use of instructional technology in teaching (Collins, 1990). That is why, the decisions, experiences, approaches, and attitudes of teachers directly affect the use of computers in education (Andris, 1995; MacArthur and Malouf, 1991; Marcinkiewicz, 1993; Moursund, 1979; Stevens, 1980; Yaghi, 1996).

Actually, the use of technology in lessons is quite difficult for teachers, since they will have change the teaching approach they currently use. Knowing the teachers' problems and anxieties about technology integration into educational system will be helpful for the people who will decide on this subject.

As mentioned above, Ministry of National Education has been implemented series of project to integrate computer technology into educational system as many other countries have done. These projects support in-service training in information, and ICT to teachers to improve basic computer skills, and assist in utilizing ICT to improve instruction (World Bank, 2002).

The first phase of the project provides training to students and in-service training for teachers and formators in ICT use and applications, aimed at computer literacy only. The second phase of the project will look at the Internet as an alternative way of individualized learning, delivering both curricula and extra-curricula content, and allowing for interaction through e-mail between teachers and students and among students. A key feature of this approach will be to develop a Web-based portal as an online entry point to a comprehensive array of information (World Bank, 2002).

The portal will contain educational content such as lesson plans, online interactive curriculum content, and an archive of past examinations and a wide range if e-learning content. It will provide a range of communication services to teachers and students to allow them to share information and to discuss topics of interest in a secure and supportive environment. The portal will also contain materials of relevance to adult learners. (World Bank, 2002)

A key component of MONE's in-service strategy will be the development of an e-learning portal. This portal will contain both pedagogical content and e-learning training materials. The online training materials will include a range of courses for master trainers, school based trainers, teachers and students, which can be completed in their own time, either in school or at home. The portal will also facilitate the exchange of additional training materials and training notes among trainers, and providing them with an effective communication platform for sharing ideas and resources as well. (World Bank, 2002)

As mentioned above, in the report of World Bank, some of the in-service teachers were taken computer literacy courses and they made computer littered. After that time, it is required that candidates who apply to be MONE teacher have taken computer literacy certification. To enhance that feature, MONE and teacher training faculties made commitment to give computer literacy courses during teacher education. (Celik, 2004)

In short, the teachers, as the practitioners in the classroom, must be computer literate and use computers effectively in teaching purposes and for their personal needs, they must also have positive attitudes toward computers. Therefore, exploring the level of teachers' computer competency that may directly contribute to their use of computer becomes a critical issue in the field of technology integration.

1.2   Purpose of the Study

Because of the changing and advancing nature of technology, the variety of innovations will probably continue to expand with the availability of new technologies (Kjetsaa, 2002). The uncontrollable development in computer technologies over last decades has also influenced the teaching profession. So, it is expected that professional organizations, university academics, and community policy makers have recognized an imperative and pressing need to integrate technology in all levels of educational efforts. While the efforts on effective use of technology in instruction increase, projects to prepare teachers to use of technology are also continuing.

Without hesitation, today's contemporary teachers are expected to be competent users of technology and be the experts of technology integration. As being a necessity, teachers must primarily master ICTs in order to be able to integrate them into their teaching. As Yasin (1998) stated only the persons having technologically literate and capable citizens can contribute to a country's development.

Professional development of teachers is a dynamic framework and it will only be updated in accordance with new research, educational theories, and responses from teachers (Teachers as Innovators, 2000). Similarly, the success of any new educational program depends strongly upon the support and position of the teachers involved in the system (Woodrow, 1992).

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Technology training of teachers and integration of technology is a current research concern. In literature, there are two approaches about the use of computer technology in education. Some studies generally focus on the needs of the teachers, whereas some searched the factors that affect the integration of technology into education. However, the factors that affect the integration of technology into education are also the needs of teachers for effective use of technology in education at the same time. According to the results of a research in 1996, it was seen that the effective use of computer technology in education depends strongly upon the resource, teachers' training and logistic support. It is believed that by exploring the factors that affect the integration of technology into education as well as the needs of teachers for effective use of technology can provide essential knowledge for technology integration designers (Plomp et al., 1996).

As mentioned before; for the ICT integration, MONE develops policy by the financial support of World Bank. Both technical and pedagogical parts of integration of ICT are considered. Broad band Internet connection of school, teacher in-service training, ICT rooms for all schools, and collaboration with universities to educate computer littered teachers are the some parts of the projects.

As a part of ICT integration policy, an educational portal is being prepared to cultivate an environment to national education community and to increase the awareness among teachers, parents, and students with regard to computer technology.

This research was conducted to

a) indicate the computer competency level of teachers

b) investigate the effects of having a computer course and buying the notebook given by Ministry of National Education on teachers' computer competencies

c) investigate the relationship between the teachers' computer competencies and the demographic characteristics (gender, experience in years, possession of computer at home, and possession of computer at school to use)

d) explore the portal expectations of teachers

Based on the purpose of this study, the following research questions are posed:

1.3   Research Questions:

The general question this study sought to explore was the teachers' competency to use computers at schools effectively and their expectations from "Bilgiye Erişim Portalı".

Sub-question 1: What are perceived competency levels of teachers about the use of computers?

Sub-question 2: What are the effects of having a computer course and buying the notebook given by Ministry of National Education on teachers' computer competencies?

Sub-question 3: Is there any significant difference between the teachers' perceived computer competency level and the following demographic characteristics: (a) gender, (b) experience in years, (c) possession of computer at home, and (d) possession of computer at school to use?

Sub-question 4: What are the expectations of teachers from "Bilgiye Erişim Portalı"?

1.4   Significance of the Study

Technology in education is not a new concept. Educators have been considering technology as useful tool for many years. In past, educators focused on audio-visual tools such as radio and television to make education more effective. Today the new trend is the integration of computers into education. During this rapid change in technology, the main goal of educators must be to search the ways of effective use of technology in education whether it is radio, television or computer.

This study will identify the teachers' level of computer use, and the related factors, and it will also identify the teachers' expectations from " Bilgiye Erişim Portalı". The results of this study are expected to indicate the current computer competency level and needs of teachers for effective use of technology in education, and provide essential knowledge for technology integration designers. Moreover, the results are expected to give clues to developer of the portal about teachers' expectation points and portals' coverage.

Because developing an educational portal is long time period and it needs so much income, if teachers' expectations are considered, targets of MONE are obtainable for the aspects of in-service teachers' part.

1.5   Definition of Terms

Following are the terms that will be used extensively in the study. A working definition for each is set forth. Neglecting the importance of each term for this study, the terms are arranged alphabetically.

Bilgiye Erişim Portalı : An educational portal developed by Ministry of National Education for the use of teachers, students, school administrators and parents. The portal contains both curricula and extra-curricula content, allows for interaction through e-mail between teachers and students, and among students. The portal also contains materials of relevance to adult learners (World Bank, 2002).

Computer: Computer, mostly uses interchangeably with microcomputer, is a small, standalone computer system designed for use by one person at a time which can be programmed to perform various tasks and has the capability to use software programs designed for specific purposes.

Computer Competency: The level which represents ones capability in using the computers.

Computer Literacy: In most cases, the term "literacy" involves the entire ability to read and write and ability to make calculations. After the beginning of information era, another type of literacy emerged; computer literacy generally referring to the ability to understand and use computers (Heinich, Molende, Russell, & Smaldino, 1996).

Educational Portal: Portals which consider both pedagogical and technical applications.

E-mail: Electronic mail is defined as messages sent via telecommunications from one person to one or more other people.

Information and Communication Technology: "ICT in education is recently perceived as not only a tool to be used for enhancing teaching and learning but may be a change paradigm in the classroom or in the educational system." (Aufenanger, Dumond, Kynigos, Potolea & Yildirim, 2003, p.3)

In-service Teacher: Teacher who graduated from a department of education of a university and teaching in his/her educated subject area.

In-service Teacher Training: Training and instruction provided by schools for teachers and staff employed by the school.

Portal: It is a hub for community which gets people of similar interest and needs in connection.

Technology: with an all-purpose understanding, technology is defined in Merriam-Webster's Collegiate Dictionary as: (a) the practical application of knowledge especially in a particular area, (b) a manner of accomplishing a task especially using technical processes, methods, or knowledge, and (c) the specialized aspects of a particular field of endeavor.

Most scholars attempted to define the term "technology" in accordance with their own perceptions and studies. Some of them made a very general description that technology is any human-made or formed instruments, processes, tools or devices (typically the newest and most advanced) that extends human capabilities in spheres of human existence such as the home, business, education, and industry (McHaney, 1998; Yasin, 1998).

In conclusion, the term "technology" often refers to a wide range of computer-based teaching and learning materials and applications, including all elements of computer use, Internet resources, various electronic communications, e-learning, web-based instruction and distance education. Thus the terms technology and computers are used interchangeably in this study.

Technology Integration: Technology integration is the infusion of technological tools and services, such as computer systems and the Internet, into a part of the educational environment within various subjects areas (McDonald, 2002) including changes made to the curriculum as well as to educational facilities (Maninger, 2003; Pawloski, 2003).

1.6 Overview of the Reminder of the Study

Chapter 2 presents a review of the literature pertaining to the study. Chapter 3 reviews the method of the study. Chapter 4 presents the data collected. Chapter 5 provides findings, conclusions and recommendation. The study concludes with appendices.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1   Introduction

A review of literature was commenced for obtaining adequate knowledge of the technology integration in education along with comprehending the significance of work already done in the field. This knowledge provides the purpose of providing a perspective on how the technology integration has started, and become established.

Particularly, the review of literature looked for exposing the current information related to the following major and sub questions:

What are the teachers' competency levels to use computers at schools effectively and their expectations from "Bilgiye Erişim Portalı"?

Sub Questions:

1. What are perceived competency levels of teachers about the use of computers?

2. What are the effects of having a computer course and buying the notebook given by Ministry of National Education on teachers' computer competencies?

3. Is there any significant difference between the teachers' perceived computer competency level and the following demographic characteristics: (a) gender, (b) experience in years, (c) possession of computer at home, and (d) possession of computer at school to use?

4. What are the expectations of teachers from "Bilgiye Erişim Portalı"?

This chapter is organized according to seven themes which provide grounding for this study:

I.   Current Conditions and Practices in Technology and ICT
II. Current Scene in Technology and ICT in Turkey
III. Integration of Technology into Education
   a. What is technology integration, and what isn't it?
   b. Where Does Technology Integration Happen?
   c. What Are The Barriers to Technology Integration?
   d. What Are The Stages Of Technology Integration?
IV. Teachers' Technology Use
V.   The Factors That Affect the Teachers' Technology Use
   a. Internal Factors for Teachers: Attitudes, Perceptions and Beliefs
   b. External Factors for Teachers: Education
VI. What is portal?
   a. "Bilgiye Erişim Portalı"
   b. What is "Bilgiye Erişim Portalı"?
      i.   BEP for Teachers
      ii. BEP for School Administrators
      iii. BEP for Parents
VII. Summary

2.2   Current Conditions and Practices in Technology and ICT

When the Soviet Union put its Sputnik satellite into space in 1957, everything has changed for the world. Technological improvements of civilizations turned out to be the most admired issue of every sector such as business, industry and as well as education. New concepts were added into our dictionaries such as microcomputers, information and communications technology (ICT), internet and their reflections on education systems. Technology has the power to convey an enormous resource of knowledge to every child in the countries (Education Technology Must Be Included in Comprehensive Education Legislation, 2001).

As the societies complete their transition into information era, schools will revolutionize just as they did when societies moved from an agrarian to an industrial society during nineteenth century. Technology is changing at a breath-taking pace and will keep on doing up to the anticipated prospect (Eisenberg, 2003). With the introduction of information era, as Altan (1998) suggested, it seems that five important issues could be found on countries' agenda: economy, education, environment, and technological and demographic change.

Educational systems around the world are also changing rapidly in response to the technological and economic restructuring. The rapid nature of technology innovation creates a remarkable challenge for educators to stay up-to-date (Irvng, 2003). Overall, purpose of education is to prepare people to perpetuate and improve the society in which they live. Thus, internationally, an educational program must be associated to its political, social, and economic way of life (McCaslin & Parks, 2002). As a conclusion new educational systems with continuously adapted to technological improvements are essential for modern times of information era (Altun, 1996; Davis, 2002).

As a result of its significance, the concept "technology" turned out to be the most universally debatable but the least definitely identified word in last decades. As embroidery; the argument about what is technology or what is not has started from the first invention of human being. Goudy (2002) defined technology as "the tools that row and change with society and serve to assist and extend human capabilities and knowledge" (p.10). Mc Robbie, Ginns and Stein (2000) investigated a number of broad definitions of technology and noted that five important dimensions of technology:

(a) technology has a human dimension – it is a purposeful activity, conceived by inventors and planners and an be promoted by entrepreneurs; (b) technology has a social dimension – it is used and implemented by society, it has effects on society, and it is influenced by value judgments; (c) technology is a process – it involves doing, making and implementing with materials, a knowledge of and use of tools, it draws upon a knowledge of materials, design practice, expertise and knowledge itself, it is subject to the laws of nature and may be enhanced by discoveries in

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science or may often preced science, and it is used to solve problems; (d) technology is situated – it is conducted within context and constraints; and (e) technology leads to the development of products, or artifacts. (p.81)

Similar to other people, teachers also hold a diversity of concepts of technology. The ambiguity in the definition of technology, unfortunately, results several confusing activities in the classroom. Many teachers from different subjects have little educational background since both science and technology are moderately innovative subjects in the primary schools (Jarvis & Rennie, 1998). For instance, Jarvis & Rennie, in their studies, attempted to find out the factors that influence children's developing perceptions of technology. It was observed that many primary school teachers are inconsistent and unwilling to explain their students which classroom activities are technology for the reason that they are also undecided about its definition. Some of them perceive technology as the applications of science; while others see it as a complete human action about designing and making products and developing organizations.

Even though, there is no clear agreement upon the definition of technology, it is noticeable that technology could have an enormous impact on teaching and learning. Re-organization of schools and classroom environments seems a prerequisite of integrating technology into the framework of teaching and learning. Using different technologies effectively in education involves shifting educators' focus from teaching to learning. With the proper technology utilization, it could be used as a tool to assist teachers' adjustment and expand what they perform in the classroom. Technology also presumed to eliminate the barriers of time (also explained in Dean, 2000) and distance.

Similar to the definition of technology, the derived term "Information Technology" is also vague. Information technology is mainly not only related to computer use but also implying media education and other technologies (Lang, 2000; Lu & Miller, 2002). IT is becoming increasingly important in the classroom settings and there is a widespread interest in how IT is being applied (Science and Engineering Indicators report of National Science Board, 2002). Teachers will use technology as effectively and flawlessly as they use chalkboards at present.

But, in order for technology to be incorporated into teaching, teachers need to have a strong understanding of the role of technology and how it can be integrated throughout the curriculum (Education Technology Must Be Included in Comprehensive Education Legislation, 2001). Besides, when computer is considered as an educational tool, the most significant issue is the position of the teacher. For computers to be used in the classroom, teachers must have necessary knowledge about computers. Due to this fact, in-service program for teachers were developed and offered.

In "Teachers as Innovators" report (2000) of the Teacher Training Agency of United Kingdom (U.K.), funded by Oracle and Compaq, main advantages and disadvantages of ICT in teaching were discussed by considering the results of surveyed teachers. The possible advantages of ICT in teaching were divided into two categories: (a) concerning the students and (b) concerning the teachers. The most common response of teachers relating with the major benefit of ICT with respect to students is the increased motivation. The others were listed as increase of students' interest and improvement of their concentration, and making the instructions enjoyable and fun. As a result of the ICT utilization benefits on students' ability to learn were also debated that students have more control of their learning (also noted by Dean, 2000; Millis & Tincher, 2003). On the other hand, when advantages of ICT for the teachers were argued, the most common responses were of that the improvement the teaching strategies on hand and expanding activities. This also resulted to increase the teachers' satisfaction of their own lessons (also noted by Dean, 2000). It was also suggested that using ICT, it turned out to be easier to concentrate on the learning mission rather than on the process. Additionally, letting teachers do things that they wouldn't be able to do otherwise and the advancement of the Internet providing them with more varied and improved materials to employ in their teaching were stated as the advantages of ICT in teaching for teachers.

Nevertheless, the responses that were given concerning the disadvantages of using ICT in teaching divided into six categories. First of all, the greatest disadvantage was reported as having inadequate resources and support. As a second disadvantage, technical problems which in many cases were related to a lack of adequate resources were noted.

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As a third disadvantage stated by teachers was using ICT in their teaching being time-consuming in terms of the preparation before and also during the lessons (also explained by Dean, 2000). Cost of resources was listed as the fourth drawback of ICT in teaching. As a fifth point, need for extra supervision was stated. The last but the most important drawback was the inadequate training. A few of the teachers realized that they had not had adequate training for using ICT. Other teachers argued that there was a deficiency in investment in staff training. In the "Teachers as Innovators" report, two extra disadvantages of using ICT in teaching explained by individual teachers were that there is too much concentration on word-processing rather than using ICT in a wider range of tasks, and that girls could be turned off learning by its use.

Franklin (2003) designed a research on the purpose of examining the ways elementary teachers use computer technology for instructional purposes and the factors that influence their use of computers. Data revealed the four factors that encourage teachers' use of computers: (a) access and availability of the hardware and software resources, (b) preparation and training, (c) leadership, and (d) time. The findings indicated that eighty-four percent of the teachers felt either well or very well prepared to integrate technology into curriculum, and that they were able to overcome the typical barriers to computer use in elementary classrooms. The elementary teachers indicated that their greatest barriers to computer use were (a) too much curriculum to cover, (b) lack of time in the daily schedule, and (c) high stakes testing.

In the work of Russell G., Finger & Russell N. (2000), it was acknowledged that even though eighty- eight percent of the teachers agreed with the statement that it is essential for all teachers to be technologically literate, there were low levels of satisfaction with the availability of training. Moreover, forty-seven percent did not agree that availability of training was sufficient. Results escalated that five percent of teachers positively agreed that they were able to follow new programs and educational applications, and only six percent definitely agreed that they were sufficiently educated about infusing IT into the curriculum.

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Statistics released by the U. S. Department of Education in April 2000 found that less than thirty-five percent of teachers felt they were "well prepared" or "very well prepared" to use technology effectively (as cited in Technology in schools, n. d.).

This section of the literature review demonstrated that everything has changed with technological improvements in our information era. All systems like economy, industry, and education required a parallel adaptation process. Unlike the other sectors of work-life, scholars of education emphasized that adaptation of education with technological innovations are not achieved exactly. There is also large body of international surveys verifying that teachers do not feel prepared to use new ICTs in their classrooms. Needles to say, teachers are aware that using technology in the classroom settings will improve their students' learning; however, teachers could not utilize computers into their classrooms with all possible advantages. In order to infuse technology into their professional lives, they must be trained as successful as they could be proficient and confident users of technology.

2.3   Current Scene in Technology and ICT in Turkey

While technological improvements in education in all around the world happen, Turkey did not also stay unconcerned. As a reflection of this situation, Ministry of National Education developed projects to raise the level, period and quality of national education. One of these projects was the National Education Development Project. Basic Education program was a component of this project. Through Basic Education program, five-year compulsory education has been replaced with eight-year compulsory education.

One of the basic principles of eight-year compulsory education was "to install computer laboratories in basic education institutions and providing all students with Computer Aided Instruction by making them computer literate" (Eight-Year Compulsory Basic Education, 1997).

As mentioned above, authorities at Ministry of National Education have planned to integrate computer technology into educational system as many other countries have done.

Parallel to trends in world, Turkey has also hoped to benefit from computers

in education. "Turkey has been studying to integrate instructional technologies into education for over 10 years to equip children *instructional technology skills* and to increase the quality and the effectiveness of the instructional environments " (Orhun, 1999, p.vii)

The first initiatives, between years 1984 – 1988, were concentrated on supplying hardware and teaching teachers about computer programming, and between years 1988 – 1989, these studies changed to a pilot project which aimed to supply new hardware, teacher training and preparation of instructional software for 37 lessons. (Ministry of National Education, 1991, cited in Orhun, 1999, p. 2)

It was notified by Orhun based on the data given by General Directorate of Computer Education and Services at Ministry of National Education for the September of 1996 that as a result of these studies 4.500 schools had been equipped with 22.000 computers and 50.000 teachers had been trained for computer use. After these efforts, Computer –Assisted Instruction Project has begun.

Implementation of computer aided instruction does not mean only equipping schools with thousands of computers and waiting for the positive effects. For successful implementation, it is also important to adequate software and hardware that corresponds to the needs. For this purpose, MONE has planned to commence to preparation for developing Turkish software for main courses with the support of TUBITAK. Ministry of National Education has also planned to connect schools to the internet. Furthermore, MONE has planned computer education programs for teachers.

Universities were collaborated with for the training of 200 formator teachers selected through examination since 1991. Number of formator teachers who have been trained up-to-day is approximately 1,500. The number of teachers who have been trained by these formator teachers in provinces has exceeded 100,000 …. By the end of 2000, all teachers, administrators and inspectors working at any educational level will be computer literate (Eight-Year Compulsory Basic Education, 1997).

At a symposium called "THE QUALITY PROBLEMS AT TEACHER TRAINING (Öğretmen Yetiştirmede Kalite Sorunları)" which is arranged by Ankara University Educational Sciences Faculty; Minister of National Education Hüseyin

Çelik (2005) emphasized that they are trying to increase the teacher quality for integration of computer technology in schools.

Minister of National Education Hüseyin Çelik emphasized that according to "Cooperation at Education (Eğitimde İşbirliği)"project executed by Ministry of National Education and Microsoft Turkey, for effective use of computers by teachers a program developed. This program is called as "Microsoft Teacher Training Academy" (Microsoft Öğretmen Eğitim Akademisi). The goal of this program is to train the teachers about computer literacy (MONE, 2005).

Unfortunately, according to the preliminary results of the projects, MONE' objective about training teachers as computer literate has not been achieved yet (Eight-Year Compulsory Basic Education, 1997).

In conclusion, it can be said that educators have not been able to benefit form computers as industry benefited. However, to increase the efforts towards the use of computer technology in schools and the enrichment of the educational process by computer based environments are continuing. If one dimension of the efforts is physical quality and the quantity of educational environment, the other dimension is human force that will use this environment. Therefore, the technological competencies of teachers; whose role are to plan, manage and develop the educational process and to guide the students; must be at expected level (Orhun, 1999).

2.4 Integration of Technology into Education

"The form of schools and education has remained fairly unchanged over hundreds of years, and so as the technology used in teaching, despite both pedagogical and technological influences" (Bohrn and Nulden, 2000). However, technology and especially computer technology caused many changes in education as in many other areas and it became an integral part of our lives. "The growth and acceptance of computer technology in education have become undeniable, and computer application is believed having an important instructional role to play in the classrooms" (Lockard, Abrams, and Many, 1997). Integration of technology into education is a popular subject of education society at present. "Technology

integration is offered as one of the cornerstones of the school reform effort" (Collins, 1991; David, 1991; Kelly, 1990; Pearlman, 1989).

Many researches were conducted in different countries to identify the methods of successful integration of technology into education. Likewise, Ministry of National Education conducts projects which aim the integration of computers into education. "Schools are investing large sums of money into hardware and software, with the expectation that teachers will use instructional technology to improve student learning" (Hope, 1995; Means and Olson, 1994; Office of Technology Assessment, 1995 cited in Espey, 2000, p.97). However, integration process necessitates careful planning, feasibility studies and action plans (Bruce and Desloge, 1999). Dias (2000) proposes four questions and argues that these questions must be answered before doing any investment into technology integration:

- What is technology integration, and what isn't it?
- Where does technology integration happen?
- What are the barriers to technology integration?
- What are the stages of technology integration?

Answering these questions at the beginning of the integration process may result in awareness of teachers about integration, changes as milestones during integration and computer use.

2.4.1 What is technology integration, and what isn't it?

Integration of technology into education is understood as computers by most of the educators. They look for the strategies that best integrate computer into education. "Research shows that technology use in classroom instruction is increasing, however, meaningful integration into curriculum remains the exception rather than the norm" (Dryli & Kinnaman, 1994; O'Neil, 1995 cited in Espey, 2000, p.95). "Just providing schools with an infrastructure, of computers and networks, will not have the desired effects." (Bohrn and Nulden, 2000). It is also necessary to prepare the human resources of the institution such as teachers, students, principals and officers for change. It is mentioned by Dias (2000) that some of the educational planners couldn't grasped the potential of computer technology, and they consider it as any other tool such as the blackboard or overhead, which may require little or no training.

They consider integration as visiting IT room once a week and using any kind of educational software without examining it for appropriateness to the curriculum and etc. however, computer is a tool which has a great potential compared with other tools, and has a capability to affect the quality of the education positively.

According to Dias (2000), in technology integration, the primary goal is not to use the technology, rather, the goal is to engage students in meaningful learning assess.

2.4.2   Where Does Technology Integration Happen?

For the effective integration of technology, learning environment must be different from traditional learning environments. Educators argue that technology integration may happen at student centered environments where teacher is a facilitator and guide students as they need. At these learning environments; students engage in the learning process effectively express themselves, combine the newly learnt knowledge with the old one, cooperate with other students and exchange their ideas and knowledge with other students (Espey, 2000).

2.4.3   What Are The Barriers to Technology Integration?

For the effective integration of technology into education, teachers and the administrators must be aware of the problems and barriers that may affect the integration process. The things that may affect integration are identified by Dias (2000) are: time, training, resources, and support. Dias proposed the following precautions to minimize the negative effects of these barriers:

- To give enough time to teachers for learning how to use software and hardware and for sharing their experiences with their colleagues.
- To provide necessary in-service training.
- To provide necessary resources, updated software and hardware.
- To provide necessary support. Teachers have to be given both technical and administrative support. They must be supported and motivated by the administration.

Moreover, Espey (2000) cited many barriers to the use of technology (Marcinkiewicz, 1994; OTA, 1995; Smith & O'Day, 1990), including lack of access to suitable hardware, poor quality software, inadequate staff development, lack of

technical assistance, and teacher resistance to changing instruction.

According to McCoy (2000), barriers to the use of technology were lack of time, lack of facilities, lack of technical support, lack of training, and equipment issues, curriculum issues, administrative issues, budget issues, and training needs comprise other barriers.

Similarly, Gombozhabon (2000) identified barriers to greater use of technology as lack of equipment, inadequate training, anxiety about technology, and time constraints. Her suggestions to eliminate these barriers were; appropriate preparation of teachers, support for experimentation and innovation, and time for learning and practice.

Another important factor that may affect the success of the integration is the resistance that teachers may have. Since due to this change, they have to learn to use computer which is more time consuming and hard to learn compared with television, overhead etc. moreover, traditional methods of education and their role in the classroom will also change.

2.4.4 What Are The Stages Of Technology Integration?

Integration of technology is a continuous process. During this process there are some stages which are passed in an order. According to Sandholtz, Ringstaff, and Dwyer (1997), these stages are: entry, adoption, adaptation, appropriation and invention

Entry: Traditional methods and printed materials are being used. Teachers may be supported by giving time to let them share their experiences with their colleagues, and work more for planning activities.

Adoption: Teachers spend more time on integration of technology into curriculum. Teachers become to be able to solve some hardware problems.

Adaptation: Both integration to new technology and integration of technology to traditional education occur. Teachers use computers to do things faster and easily.

Appropriation: Teachers learn the benefits of computer, and they produce real works without too much effort.

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Invention: Teachers perceive knowledge as a thing that students must form themselves rather than a thing transmitted by teacher to students.

2.5 Teachers' Technology Use

While improving the learning of student, the central goal of using technology is enhancing mastering objectives and enhancing student learning. Technology using teachers express enthusiasm for additional instructional benefits of technology that may or may not be directly observed in measures of student learning such as bridging wider range of resources to the classroom, motivating learners, accommodating individual learning styles…etc. OTA Report (1995) lists the teachers' technology use as follows:

a) Bridging new resources to the classroom: Teachers have chance to access to a broader range of resources that they can use in their classrooms. For example, supplementary computer tools such as scanners, cameras allow teachers to bring outside sources into the classroom, enter these sources to the computer, and customize assignments for students.

b) Developing new forms of instruction: Teachers may utilize from the technology to create new teaching tool. For instance, instead of written reports, teachers may require usage of multimedia sources to create reports which includes photographs, references from CD-ROM… etc.

c) Motivating learners: The nature of technology based resources confirm that many technology based classroom activities can be motivating to students.

d) Assisting teachers with the daily tasks of teaching: Teachers are asked are to do lots of things in an outside of the school. Computers offer alternative and time saving solutions to many tasks that require teachers' valuable time and energy such as keeping records, preparing curricular activities and reports etc.

Technological tools are becoming more affordable and prevalent in schools. It is obvious that technology will play a vital role in reshaping the manner in which the teachers educate their students.

2.6   The Factors That Affect the Teachers' Technology Use

Educators say that the technology will be a compulsory tool for teachers in the near future. According to the last researches the teachers are needed to have at least computer literacy skills (Blair, Ely, Martinez, Lichvar and Tyksinski, 1996; Norton and Gonzales, 1998). According to the many researches, although the teachers can easily access to the computers many of them do not use the computers for main purposes (Hunt and Bohlin,1993; Marginkiewicz,1993; OTA,1988,1995). Actually, when they use the computers, they just use them for general applications such as word processing (OTA,1995). Moreover, the computers could not be integrated into the primary and secondary education programs and many of the teachers weren't educated adequately to use the computers in the classroom (Hardy,1998; Henry,1993; Jordan and Folman,1992; Lyons and Carlson,1995; Okinaka,1992; OTA,1995).

As a result of a research on primary schools administrators, it was seen that the administrators said that they had problems because of physical conditions, educational equipments, and financial resources. Certainly, it is important to develop the technological infrastructure of the schools. However, although there were enough computers at schools, some researches showed that the teachers did not use the computers, and they also resisted to use these environments (Marcinkiewicz, 1993; Dusick, 1998).

As mentioned before, to make the teachers computer literate is essential. However, unless knowing and considering the reasons that led the teachers to use computers or the factors that prevent them, it will be a dream to think they will integrate this technology to the process. That is why; at first, it is important to distinguish these reasons or the factors.

Many researches at this area are related with the needs of teachers to use computers and the factors that affect them. In 1996, a research done in 19 countries shows that the success of computer integration into education depends on the resources, teacher training and logistic support teams (Plomp and others, 1996).

Halderman (1992) also conducted a research, and proposed that majority of teachers want to use technology, have positive attitudes toward technology and developing their skills.

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The factors that affect the integration of technology into education also cover the needs of teachers for using technology in schools. The factors and the needs are divided into two subgroups: 1. Internal factors, 2. External factors.

2.6.1 Internal Factors for Teachers: Attitudes, Perceptions and Beliefs

Many researches conducted about the attitudes of teachers towards computers. Some of them searched how teachers' attitudes affect their enthusiasm for computer use (Boone and Gabel, 1994; Hunt and Bohlin, 1993; Kellenberger, 1996; Kluever, Lain, Hoffman, Green and Swearingen, 1994; Levine and Donitsa-Schmit, 1998; Lowther and Sullivan, 1994; Okinaka, 1992; Selwyn, 1997). McFarlane and others (1997) found that the attitudes of teachers towards computers were very different (McFarlane, Hoffman, and Green, 1997). Moreover, at many researches, it is shown that there was a positive relation between computer literacy and teachers' attitudes (Brooks, 1987; Coffey, 1984; Mitchell, 1985).

The results of researches indicated that teachers are afraid of computers more than other professions and they are less affected from computers. (Hardy, 1998; Paprzycki and Vidakovic, 1994). They believe that to learn how to use computers is very difficult. Also, some of the teachers think that the computers are not effective tools to use in classrooms (Burgan, 1994). Although, many of the teachers have positive attitudes towards computers, they are not using computers in their classes due to the reasons:

- Inadequate number of computers,
- Inappropriateness of instructional programs,
- Inadequate training of teachers (Casey, 1995; Schrum, 1993).

2.6.2 External Factors for Teachers: Education

The teachers need to be educated about not only how to use computers but also how to integrate the applications to their teaching (Becker, 1994; Hawkins, 1990; Honey and Henriquez, 1993; OTA, 1988, 1995; Schofield and Verban, 1988; Watt and Watt, 1988). The lack of knowledge and inadequate training are the two major problems of use of computers in education (Andris, 1996). Moreover, the financial support is also needed to integrate technology into education (Becker, 1994; Honey and Henriquez, 1993; OTA, 1988; Sheingold and Hadley, 1990).

In order to integrate technology into education, the teachers need much more time and the support of school administration to prepare new lesson plans, new courses and application (Becker, 1994; Honey and Henriquez,1993; Hunt and Bohlin, 1993; Wiske, 1987; OTA, 1988, 1995; Sheingold and Hadley, 1990).

2.7   What is portal?

It can be defined as a gateway to web access or a hub from which users can locate the entire web content that they commonly need (Strauss, 2000). It gives services to its users such as resources, news, chat rooms, e-mail services, forums, discussion groups, search engines, databases. Portal users can make changes in the services as they wish. As there is a personal configuration of the web site, portal is user-centered.

Portal definitions from the literature are as follows:

- "…a personalized collection of information, content, and services" (Pickett & Hamre, 2002, p.37).

- "Portal technology provides a central online tool to access and exchange internal information, as well as link to external information, vendors and resources according to the needs, mission and choice of the institution" (Norman, 2003).

- " A portal serves as the central access point for collaboration, enabling the sharing of best practices and establishing a set of standards that will provide nations and academic institutions with universal access to services, curriculum and training"(Santa, 2004).

- "Portal technology is used to build collaboration communities of practice among teachers. Portals complicate who has access to what info and why, which may lead to questions as to who is a member of the community" (Katz, 2002, p.12).

As we have noted, an online portal stand for a resource gateway in general manner. Portal has been designed in such a way that it selectively filters and organizes useful, relevant information. Thus a portal allows users to easily navigate towards areas of interest. Large quantities of content are expected to be available through education portal (Butcher, 2002).

2.7.1   "Bilgiye Erişim Portalı"

Like other countries, Turkey recognized the importance that all children should have a basic education. In August 1997, Parliament approved a new Basic Education Law and the duration of compulsory schooling extended from five years to eight years.

Ministry of National Education has been implemented series of project for supporting and developing basic education programs. The project covers extend basic education, improve basic education quality, support in-service training in information, and communications technology (ICT) to teachers to improve basic computer skills, and assist in utilizing ICT to improve instruction (World Bank, 2002).

The first phase of the project provides training to students an din-service training for teachers and formators in ICT use and applications, aimed at computer literacy only. The second phase of the project will look at the Internet as an alternative way of individualized learning, delivering both curricula and extra-curricula content, and allowing for interaction through e-mail between teachers and students and among students. A key feature of this approach will be to develop a Web-based portal as an online entry point to a comprehensive array of information (World Bank, 2002).

The portal will contain educational content such as lesson plans, online interactive curriculum content, and an archive of past examinations and a wide range ıf e-learning content. It will provide a range of communication services to teachers and students to allow them to share information and to discuss topics of interest in a secure and supportive environment. The portal will also contain materials of relevance to adult learners (World Bank, 2002).

A key component of MONE's in-service strategy will be the development of an e-learning portal. This portal will contain both pedagogical content and e-learning

training materials. The online training materials will include a range of courses for master trainers, school based trainers, teachers and students, which can be completed in their own time, either in school or at home. The portal will also facilitate the exchange of additional training materials and training notes among trainers, and providing them with an effective communication platform for sharing ideas and resources as well (World Bank, 2002).

As mentioned above, in the report of World Bank, some of the in-service teachers were taken computer literacy courses and they made computer littered. After that time, it is required that candidates who apply to be MONE teacher have taken computer literacy certification. To enhance that feature, MONE and teacher training faculties made commitment to give computer literacy courses during teacher education (Celik, 2004).

To provide life long effective learning and reaching more people, an educational portal is being developed by MONE. In the portal, people can administrate their own learning process. Educational software and reliable content is being prepared for the needs of teachers, students and parents. People can take distance education as a part of portal services (Celik, 2004).

2.7.2 What is "Bilgiye Erişim Portalı"?

"Bilgiye Erişim Portalı" is a web site prepared by Ministry of National Education for the use of teachers, students, school administrators, and parents.
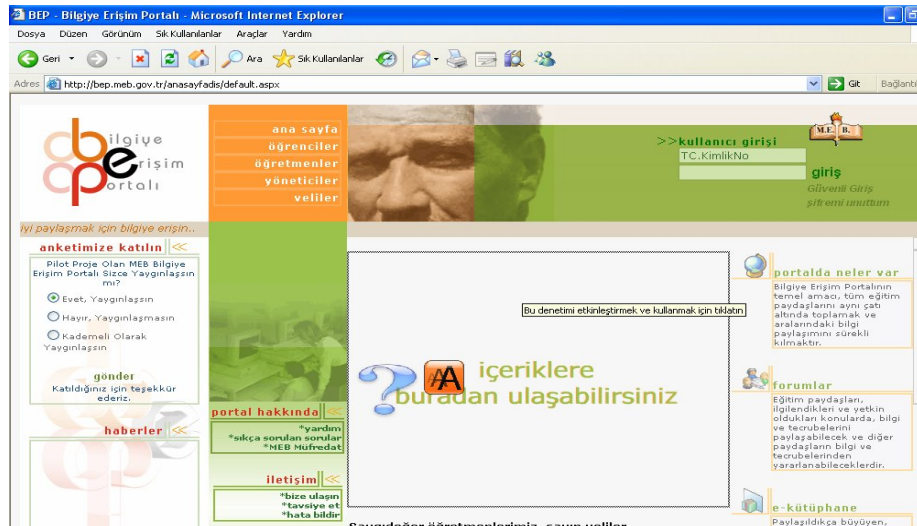
Figure 2.7.2.1: "Bilgiye Erişim Portalı" Home Page

The goal of this site is to help to the teachers and parents to develop students properly. The main objective of this site is to collect all the stakeholders under the same roof and make continuous information sharing among them.

At this site, the stakeholders can communicate with each other, they can exchange their experiences and knowledge and benefit from others' experiences and knowledge.

Moreover, the stakeholders can reach the e-library on this site. They can find the documents they concern, evaluate these documents and also they can send their own documents.

This site is a pilot project now. It is planned to serve to 18,000 students and approximately 6,000 teachers in 9 provinces (Ankara, Bolu, Diyarbakır, Hatay, İstanbul, İzmir, Kocaeli, Samsun and Van) in 120 schools.
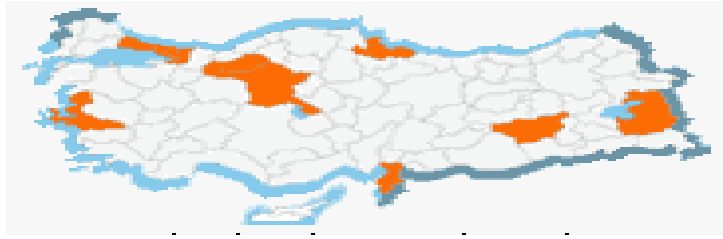
Figure 2.7.2.2: Cities in which pilot project is managed

There is a questionnaire on the site. It is about whether MONE Bilgiye Erişim Portalı becomes widespread or not. 599 people answered the question. 536 of them answered as "Yes", 42 of them answered as "No", and 21 of them answered as "As graded". Although, it is aimed to serve approximately 6,000 teachers, only the 599 teachers participated to the questionnaire. The reason of this situation may be the unawareness of teachers of this portal.

The stakeholders log on this site by using their identity numbers and the password given by the school administrators.

2.7.2.1   BEP for Teachers

The teachers can communicate with their colleagues, school administrators, parents and students by this site. They can reach the students' information fast.

They can reach the e-content related with their lessons; exchange their views with other teachers.

Under "MY LESSONS" title, they can reach additional materials, resources, lesson plans and so on.

Under "E – LIBRARY" title, they can reach new information; they can send their interpretations and new information.

Under "MY STUDENTS" title, they can examine the students' lesson scores and attendance details.

Under "MY MESSAGES" title, they can communicate with all stakeholders.

Under "ANNOUNCEMENTS" title, they can reach the announcements related with them and their schools.

2.7.2.2   BEP for School Administrators

This part of the site is prepared to help the school administrators. They can reach the detailed information they need about their school, teachers and students. They can have an active communication with their personnel and students.

Under "SCHOOL ADMINISTRATION" title, they can find all type of help related with school administration.

Under "SCHOOL INFORMATION" title, they can reach all information at school whenever they want.

Under "STUDENT INFORMATION" title, they can reach the students' lesson scores and attendance details and they can enter the new information to the system.

Under "ANNOUNCEMENTS" title, they can reach the announcements related with them and their schools, and they can make announcements to their teachers, students and parents.

2.7.2.3   BEP for Parents

This part of site is prepared to prevent the problems that occur due to the scarcity of communication among teachers, parents and school.

The parents can communicate with their child's teachers, friends and friends' parents. They can have an idea about the child's lesson subjects.

Under "MY CHILD'S INFORMATION" title, they can follow their child's lesson scores and attendance details.

Under "ANNOUNCEMENTS" title, they can reach the announcements related with them.

Under "MESSAGES" title, they can send and receive e-mail to their child's teachers, friends and friends' parents.

Under "LESSONS" title, they can obtain information about child's lesson content, and follow the lessons at each semester.

2.8 Summary

The literature review demonstrated that everything has changed with Sputnik, and the world emerged into information era. Education systems were also entered in an adaptation phase in accordance with technological innovations.

Literature review revealed that a large body of researches pointed that teachers do not feel prepared to use new ICTs in their classrooms (Altan, 1998). More than possessing necessary competencies, it is how teachers integrate technologies into the classroom environment to foster learning and achieve educational outcomes is important (Ritchie & Rodriguez, 1996). Most research data proclaimed that teachers could not utilize computers into their classrooms with all possible advantages. For effective integration of technology into education, teachers must have necessary qualifications (Crawford, 2000). Similar to other countries, Turkey has also started projects about the integration of computer technology into schools. These projects support in-service training in information, and ICT to teachers to improve basic computer skills, and assist in utilizing ICT to improve instruction (World Bank, 2002).

The first phase of the project provides training to students and in-service training for teachers and formators in ICT use and applications, aimed at computer literacy only. MONE aims to take teachers into in-service training programs for two weeks, one week at the beginning and one week at the end of the school year. Thus, MONE aims to train approximately 305,000 basic education teachers and school principals. A key feature of this approach will be to develop a Web-based portal as an online entry point to a comprehensive array of information (World Bank, 2002).

The portal will contain educational content such as lesson plans, online interactive curriculum content, and an archive of past examinations and a wide range

if e-learning content. It will provide a range of communication services to teachers and students to allow them to share information and to discuss topics of interest in a secure and supportive environment. The portal will also contain materials of relevance to adult learners. (World Bank, 2002)

       Chapter 3 discusses the procedures used in this study, Chapter 4 reports the findings, and Chapter 5 presents the conclusions and recommendations.

CHAPTER 3

METHOD

3.1   Introduction

In the previous chapters, the existing literature was investigated through the review of the studies in relation to the main problem and related sub problems. The research design and procedures used in this study are presented in this chapter. This chapter is divided in five major sections. The first section describes the subjects and settings for the study. The second part describes the instrument used in the study. The third part explains the overall design and variables of the study. The fourth part clarifies the collection of data and finally the fifth part describes the analyses of data.

The purpose of this study to explore was the teachers' competency to use computers at schools effectively and their expectations from "Bilgiye Erişim Portalı".

This study looked at the following questions:

1. What are perceived competency levels of teachers about the use of computers?

2. What are the effects of having a computer course and buying the notebook given by Ministry of National Education on teachers' computer competencies?

3. Is there any significant difference between the teachers' perceived computer competency level and the following demographic characteristics: (a) gender, (b) experience in years, (c) possession of computer at home, and (d) possession of computer at school to use?

4. What are the expectations of teachers from "Bilgiye Erişim Portalı"?

3.2   Participants of the Study

Since the study aims to assess the teachers' computer competency level and their expectations from portal, the actual population is the whole teachers in all subject areas. However, it is exigent to reach such an enormous number of teachers, and doing interview with them is really difficult for the research. Hence, a convenient sampling method preferred for the study. As Fraenkel and Wallen (2000) advised when it is unfeasible to select either a random or a systematic nonrandom sample, a researcher should use convenience sampling method, that is, the sample available for the researcher at first hand.

This study focused on 30 teachers (15 classroom teachers, and 15 branch teachers) and 5 administrators from 6 different schools in Ankara. The researcher is a computer teacher at one of the schools and the other schools will be nearby schools. The subject areas of teachers and their gender distributions can be seen in Table 3.2.1. and the school characteristics can be seen in Table 3.2.2.

Table 3.2.1: Distribution of the participants in terms of gender and subject area

	Gender					
	Male		Female		Total	
	n	%	*n*	%	*n*	%
Subject Areas						
Classroom	5	33,33	10	66,67	15	42,86
Branch						
Administrator	7	46,67	8	53,33	15	42,86
	2	40	3	60	5	14,29
TOTAL	14	40	21	60	35	100

Table 3.2.2: School characteristics

School name / Characteristics	Beypazarı Meslek Lisesi	GOP Anadolu Meslek Lisesi	Abidinpaşa İlköğretim Okulu	29 Ekim İlköğretim Okulu	Çankaya İMKB Anadolu Otelcilik ve Turizm Meslek Lisesi	Çankaya Milli Piyango Anadolu Lisesi
Number of computer laboratory	1	2	0	0	2	1
Number of computers in each lab	20	18	0	0	30	20
Number of teachers	38	70	65	50	100	55

Since the convenience samples cannot be considered representative of any population, the researcher will be careful to include information on demographic characteristics of the sample.

3.3   Data Collection Instruments

During the literature review period of the study, previously developed instruments about computer competency scale and interviews were analyzed. Throughout the analysis of the other researches, the computer competency scale which was developed by Dusick and Yildirim (1998) was found. However, for the interview, no exact instrument for using in this case was found. Therefore, the researcher decided to develop a new instrument by evaluating the implemented instruments about interview and their research results. While preparing the interview schedule, by informal speeches, ideas of the instructors and experts from different subject area (instructional technology, counseling psychology, curriculum and instruction, Turkish language education, computer education) were accumulated.

Data were gathered through computer competency scale and interview. Each of the instruments is explained in detail below.

3.3.1 Computer Competency Scale

The quantitative survey which was developed by Dusick and Yildirim (1998) was used to collect the quantitative data about teachers. This part of the survey gathers data about teachers' computer competency; that were delineated in the literature as the minimum computer competencies of a teachers should have; about:

1. Word processor
2. Spreadsheet
3. Internet applications
4. Use of Presentation and Desktop Publishing Software
5. Maintenance of computers.

The scale has 34 items and the items are rated on a five-point Likert type scale with 1 equaling to Definitely Not Competent to 5 equaling to Definitely Competent (Definitely Not Competent, Not Competent, Partially Competent, Competent, and Definitely Competent). The scale has 5 parts. What should be carefully declared here is that this scale did not assess their current competencies, yet, assess how they did perceive themselves on these competencies.

The demographic questions took account of teachers' gender, subject area, years of experience, possessing a computer at home and at school, having a computer course before, buying the notebook given by MONE and lastly a Computer Competency Scale.

This instrument was also used by Dusick and Yıldırım in 1998, and the internal reliability consistency value of the scale for computer competency was $\alpha = .87$ denoting a satisfactory reliability.

Alpha values were categorized by George and Mallery (SPPS for Windows Step by Step. A Simple Guide and Reference, 2001) as follows:

$\alpha > 0, 90$ – excellent

$\alpha > 0, 80$ – good

$\alpha > 0, 70$ – acceptable

$\alpha > 0, 50$ - unacceptable

Reliability values for each subject area are also given in Table 3.3.1.1.

Table 3.3.1.1: Distribution of Questions According to Subject Areas

Category	Part No	Subject	# of items	α values
Computer Competency	1	Word Processing	4	0,97
	2	Spreadsheet Applications	4	0,94
	3	Internet	11	0,98
	4	Presentation and Desktop Publishing Software	8	0,96
	5	Maintenance	7	0,97
Total	5		34	0,87

3.3.2   Interview Schedule

The interview schedule was used to collect data about teachers' reactions, perceptions, expectations, feelings, and insights towards "Bilgiye Erişim Portalı". The interview schedule was designed by the researcher as a semi-structured interview to bring follow up questions and answers that could arise during the interview and an expert checked the questions and probes in terms of their clarity. The questions which were found to be unclear, multiple or yes-no type were revised. After the proofreading of questions, colleagues, computer instructors and experts from subject areas examined the questions for the content validity of the instrument. The interview schedule had 13 questions and sub-questions.

3.4   Overall Design

Since the study aims to obtain data to determine specific characteristics of a group, a non-experimental descriptive survey research design was employed. Survey used for two purposes in this study. First one was collecting descriptive information about target population and second one was scrutinizing between various factors. However, as Fraenkel and Wallen (2000) discussed, it should be addressed that there are three major difficulties when employing survey type of research design: (1) questions in the survey must be obvious; (2) respondents' honesty on answers; (3) gathering a sufficient number of replies to obtain statistically meaningful analyses.

For the first problem; the expert opinions on clarity issues and content

validity were utilized. For the second problematic-issues, it is assumed that responses were profoundly thoughtful and honest. The total, within groups, and between groups numbers of the participants are clearly enough to make statistical analyses for the survey.

3.5   Data Collection Procedure

The quantitative data was gathered through the administration of questionnaire in 2005-2006 fall semester. First of all, the purpose of the study was explained. The teachers were asked to participate in the study. They were also informed that participation was voluntary. It is profoundly declared that all their responses would be kept completely confidential and would only be used for the study. Then, the questionnaires were distributed to the teachers by the researcher and they were given time to complete the questionnaire. After collecting questionnaires, the researcher gave a brief introduction about the definition of portal and its contents

Then, the researcher asked the interview questions in order to get teachers' reactions, perceptions, experiences, feelings and insights from "Bilgiye Erişim Portalı". Interviews were in a semi-structured form and the questions were open-ended. In order to get the opinions, and expectations of teachers related to their experiences with "Bilgiye Erişim Portalı", the researcher used predetermined the questions and sub-questions that supported with bring follow up questions that could arise during the interview. This allowed the researcher to gather information from the different perspectives and to focus on the complete picture in a more holistic manner. All interview sessions were audio – recorded. A typical interview lasted approximately 75 minutes.

3.6   Data Analysis Procedure

The 5-point Likert type scale was analyzed quantitatively. Participants (teachers) rated their computer competency in a scale where 5 = definitely competent and 1 = definitely not competent. While analyzing data , low point value will be accepted as an indication of a low level of computer competency (34 is the lowest score) and a high point value will be accepted as an indicator of a high level of computer competency (170 is the highest score).

Descriptive statistics were used to analyze data collected through competency scale. Firstly, percentages, frequencies, and mean scores were used to assess teachers' competency in five domains stated earlier. Then, analysis of variance was used to determine the difference between teachers' computer competency scores and their demographic characteristics; gender, teaching experience, having a computer at home, availability of computer at school and, taking the notebooks given by MONE. Analysis of variance was also used to determine between-subjects factor and within-subjects factor. Data were analyzed for both within and between group patterns. Linear regression was used to find out the relationship between computer competency score and having a computer course and buying the notebook given by MONE.

For the qualitative part, the interviews were audio-recorded, then transcribed word by word from cassettes without any modifications. All responses were coded to identify the themes related to the expectations, needs and perceptions towards "Bilgiye Erişim Portalı". Then the frequencies of these codes were recorded and patterns were identified. Finally, conclusions were drawn in order to move from particulars to more general conclusions.

3.7 Validity and Reliability

The validity of interview was content validity. The experts checked the interview logs in terms of content and format and judged whether or nor it was appropriate. Moreover, for the reliability of the qualitative data inter-coder reliability procedure was employed. A colleague of the researcher investigated the answers of the interview in terms of coding. The codes that the researcher and the colleague found were approximately (0.98) the same.

3.8 Assumptions of the study

Following assumptions were made for the study;
1. The participants responded the questions of instruments seriously and accurately.
2. The scale and interviews were administered under the appropriate conditions.
3. The data were accurately recorded and analyzed.

4. Reliability and validity of the measures used in the study were accurate enough to permit accurate assumptions.

3.9   Limitations of the study

1. Since convenience sampling method was used to select teachers and principals, it is difficult to generalize the findings and the results to the whole population.

2. There might have been misunderstanding about questions because of unfamiliarity (in terms of computer technology) of teachers. Although the researcher was ready to answer the questions of teachers when they did not understand a term related with the computer technology, some of them might have misunderstood or might have hesitated to ask.

3. Interviews were limited to those schools and teachers only and the results are not to be generalized to the whole population.

4. Other limitations of this study were problems of honesty, time constraints of the teacher.

5. Validity of this study is limited to the reliability of the instruments used in this study.

3.10   Delimitations of the study

1. This study is delimited to schools that are selected as pilot school by MONE.

CHAPTER 4

RESULTS

The results of statistical analyses are presented in this chapter. The chapter is organized that each research question is associated with a result and a short explanation.

Firstly, percentages, frequencies, and mean scores were used to assess teachers' competency in five domains stated earlier. Then, analysis of variance was used to determine the difference between teachers' computer competency scores and their demographic characteristics; gender, teaching experience, having a computer at home, availability of computer at school and, taking the notebooks given by MONE. Analysis of variance was also used to determine between-subjects factor and within-subjects factor. Data were analyzed for both within and between group patterns. Linear regression was used to find out the relationship between computer competency score and having a computer course and buying the notebook given by MONE.

For the qualitative data part, all responses were coded to identify the themes related to the expectations, needs and perceptions towards "Bilgiye Erişim Portalı". Then the frequencies of these codes were recorded and patterns were identified.

4.1 Results of Quantitative Data

Question 1: What are perceived competency levels of teachers about the use of computers?

This section of the chapter shows the summary statistics of observed variables.

Teachers' Computer Competencies

In this part, teachers' computer competencies were examined. In questionnaire, parts 1 to 5 were consisted of items that rate the teachers' perceived computer competencies.

Means and standard deviations of the scale for branch teachers are presented in Table 4.1.1. The highest mean score ($M = 3, 90$) was observed in Word Processing, and the lowest mean score ($M = 1, 58$) was observed in Presentation and Desktop Publishing Software.

Table 4.1.1: Teachers' perceived computer competencies

Subject	Item No	M	SD	Percentages					
				NA	DNC	NC	PC	C	DC
Word Processing	1	3,74	1,52	8,6	-	8,6	1,71	22,9	42,9
	2	4,00	1,52	8,6	-	8,6	-	31,4	51,4
	3	4,14	1,46	8,6	-	2,9	2,9	28,6	57,1
	4	3,71	1,51	8,6	-	8,6	17,1	25,7	40,0
Overall mean		**3,90**							
Spreadsheet Applications	1	3,74	1,74	14,3	-	-	20,0	14,3	51,4
	2	3,63	1,70	14,3	-	-	22,9	20,0	42,9
	3	2,89	1,66	14,3	5,7	20,0	14,3	28,6	17,1
	4	3,00	1,75	14,3	11,4	8,6	11,4	34,3	20,0
Overall mean		**3,32**							
Internet	1	4,00	1,28	2,9	2,9	8,6	8,6	31,4	45,7
	2	3,89	1,16	2,9	2,9	5,7	8,6	51,4	28,6
	3	2,83	1,44	2,9	22,9	8,6	37,1	11,4	17,1
	4	2,94	1,47	2,9	20,0	17,1	14,3	31,4	14,3
	5	3,03	1,56	2,9	14,3	31,4	5,7	20,0	25,7
	6	3,27	1,38	2,9	8,6	14,3	28,6	20,0	22,9
	7	3,51	1,54	5,7	2,9	25,7	-	31,4	34,3
	8	3,43	1,36	2,9	5,7	20,0	11,4	37,1	22,9
	9	2,91	1,50	5,7	14,3	17,1	28,6	14,3	20,0
	10	2,37	1,35	5,7	22,9	28,6	22,9	11,4	8,6
	11	2,29	1,43	5,7	31,4	25,7	8,6	22,9	5,7
Overall mean		**3,13**							

Table 4.1.1(continued) : Teachers' perceived computer competencies

Subject	Item No	M	SD	Percentages					
				NA	DNC	NC	PC	C	DC
Presentation and Desktop Publishing Software	1	2,17	1,72	34,3	-	8,6	34,3	17,1	5,7
	2	1,97	1,67	34,3	8,6	8,6	25,7	20,0	2,9
	3	1,31	1,41	34,3	31,4	17,1	8,6	2,9	5,7
	4	1,83	1,58	34,3	5,7	20,0	28,6	5,7	5,7
	5	1,31	1,30	34,3	25,7	22,9	11,4	2,9	2,9
	6	1,40	1,42	34,3	25,7	20,0	8,6	8,6	2,9
	7	0,97	0,92	37,1	34,3	22,9	5,7	-	-
	8	1,71	1,78	34,3	22,9	14,3	5,7	11,4	11,4
Overall mean		1,58							
Maintenance	1	1,97	2,05	42,9	8,6	8,6	5,7	17,1	17,1
	2	1,83	1,96	42,9	11,4	8,6	8,6	14,3	14,3
	3	1,91	1,98	42,9	2,9	20,0	5,7	11,4	17,1
	4	1,34	1,49	42,9	17,1	17,1	11,4	8,6	2,9
	5	1,46	1,62	42,9	14,3	17,1	11,4	8,6	5,7
	6	1,40	1,61	42,9	17,1	20,0	2,9	11,4	5,7
	7	1,31	1,55	42,9	22,9	11,4	11,4	5,7	5,7
Overall mean		1,60							
Overall mean for computer competency		2,71							

Note: For this table NA = Not Applicable, DNC = Definitely Not Competent, NC = Not Competent, PC = Partially Competent, C = Competent, DC = Definitely Competent.

2.71

_____	_____	_____	↑	_____	_____	__

0 (NA)   1 (DNC)   2 (NC)   3 (PC)   4 (C)   5(DC)
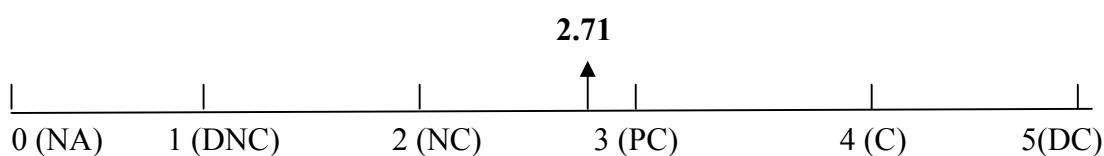
The above scale with the mean score of 2.71 indicates that the teachers feel themselves _Partially Competent_ about computers. The teachers feel themselves competent about Word Processing; however, they feel themselves not competent about Presentation and Desktop Publishing Software.

Question 2: What are the effects of having a computer course and buying the notebook given by Ministry of National Education on teachers' computer competencies?

This section of the chapter shows the summary statistics of observed variables.

Q.2.a: Results will be focused on the effects of having a computer course on teachers' computer competency level.

Q.2.b: Results will be focused on the effects of buying the notebook given by MONE on teachers' computer competency level.

Q.2.a. Effects of Having a Computer Course on Teachers' Computer Competency Scores

In this part, the dependent variable was computer competency score, and the independent variable was having a computer course. The relationship between these variables was analyzed by using linear regression analysis.

As it is seen from Table 4.2.a.1 that, the sample correlation coefficient (R) was 0,119, indicating that 1, 4 percent of the variance in teachers' computer competency score was explained by having a computer course. Furthermore, significance of the interaction is given (F = 0,470, p = 0,498) in Table 4.2.a.2. Since, the significance value of 0,498 is greater than alpha =, 05, there was no significant difference between the groups, $F(1, 33) = 0,470$, p = 0,498.

Table 4.2.a.1: Effects of Having a Computer Course on Teachers' Computer Competency Scores – Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
Model					R Square Change	F Change	df1	df2	Sig. F Change
1	,119	,014	-,016	,96113	,014	,470	1	33	,498

a Predictors: (Constant), Having a computer course

Table 4.2.a.2: Effects of Having a Computer Course on Teachers' Computer Competency Scores – ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,435	1	,435	,470	,498
	Residual	30,484	33	,924		
	Total	30,919	34			

a Predictors: (Constant), Having a computer course

b Dependent Variable: Computer competency score

Q.2.b   Effects of Buying Notebook on Teachers' Computer Competency Scores

In this part, the dependent variable was computer competency score, and the independent variable was buying the notebook given by MONE. The relationship between these variables was analyzed by using linear regression analysis.

As it is seen from Table 4.2.b.1 that, the sample multiple correlation coefficient (R) was ,225, indicating that 5,1 percent of the variance in teachers' computer competency score was explained by buying the notebook given by MONE. Since, the significance value of 0,194 is greater than alpha = .05, there was no significant difference between the groups, $F(1, 33) = 1,759$, $p = 0,194$.

Table 4.2.b.1: Effects of Buying Notebook on Teachers' Computer Competency Scores– Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
Model					R Square Change	F Change	df1	df2	Sig. F Change
1	,225	,051	,022	,94315	,051	1,759	1	33	,194

a Predictors: (Constant), Buying the notebook

Table 4.2.b.2: Effects of Buying Notebook on Teachers' Computer Competency Scores– ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,564	1	1,564	1,759	,194
	Residual	29,354	33	,890		
	Total	30,919	34			

a Predictors: (Constant), Buying the notebook

b Dependent Variable: Computer competency score

Question 3: Is there any significant difference between the teachers' perceived computer competency level and the following demographic characteristics: (a) gender, (b) experience in years, (c) possession of computer at home, and (d) possession of computer at school to use?

This section of the chapter shows the summary statistics of observed variables.

Q.3.a: Results will be focused on the teachers' computer competency level in terms of gender.

Q.3.b: Results will be focused on the teachers' computer competency level in terms of experience in year.

Q.3.c: Results will be focused on the teachers' computer competency level in terms of possession of computer at home.

Q.3.d: Results will be focused on the teachers' computer competency level in terms of possession of computer at school to use.

Q.3.a   Teachers' Perceived Computer Competency Level in terms of Gender

In this part, means of teachers' competency scores were compared in terms of gender to see if there is a significant difference in teachers' perception of computer competencies. None of the cases were excluded and analysis was based on 35 cases. One-way ANOVA was used to analyze the variables.

As it is seen from Table 4.3.a.2, observed $F = 2, 26$ and $p = 0,14$ ($F_{0,05} = 4,15$). Since the observed F ratio is not in the critical region, we can say that there was no significant difference in teachers' perceived computer competencies in terms of gender.

However; data results given in Table 4.3.a.1 indicated that the male teachers had higher mean score ($M = 2, 66$) than female teachers ($M = 2, 17$).

Table 4.3.a.1: Teachers' Computer Competency in terms of Gender – Computer Competency Score

GENDER	Mean	N	Std. Deviation	Minimum	Maximum
Male	2,6571	14	,82061	1,80	3,80
Female	2,1714	21	1,00456	,00	3,40
Total	2,3657	35	,95361	,00	3,80

Table 4.3.a.2: Teachers' Computer Competency in terms of Gender – ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
SCORE * GENDER	Between Groups (Combined)	1,982	1	1,982	2,260	,142
	Within Groups	28,937	33	,877		
	Total	30,919	34			

Q.3.b Teachers' Perceived Computer Competency Level in terms of Experience (in years)

In this part, means of teachers' computer competency scores were compared in terms of experience in teaching to see if there is a significant difference in teachers' perception of computer competencies. For this aim, experience periods (in years) of teachers were divided into three sub – groups and coded as follows: $1 - 10 = 1$, $11 - 19 = 2$, $20 - + = 3$. (Max. = 27, min. = 3, range = 24). None of the cases were excluded and analysis was based on 35 cases. One-way ANOVA was used to analyze the variables.

As it is seen from Table 4.3.b.2, observed F = 4, 48, and p =0,02, ($F_{0, 05} = 3, 30$). Since the observed F ratio is in the critical region, we can say that there was a significant difference in teachers' perceived computer competencies in terms of experience in teaching.

Data results given in Table 4.3.b.1 shows that the teachers' mean scores (for group 1, $M = 3, 02$) who are less experienced in teaching are higher than the

teachers' mean scores (for groups 2 and 3, $M = 1, 98$, $M = 2, 15$) who are more experienced in teaching.

This is not a surprising case. Computer was not as widespread as today up to last fifteen years. Therefore, majority of those teachers

couldn't catch the innovation of computing, and they lack of computer competency skills. However, the teachers' mean scores for group 2 are less than the teachers' mean scores for group 3.

According to Post Hoc Analysis in Table 4.3.b.3, the teachers with 1-10 years experience have significantly larger computer competency level than the teachers with only 11-19 years experience.

Table 4.3.b.1: Teachers' Computer Competency in terms of Experience – Computer Competency Score

EXPGROUP	Mean	N	Std. Deviation	Minimum	Maximum
1 - 10	3,0182	11	,67796	2,20	3,80
11 - 19	1,9833	12	,89629	,00	3,40
20 - +	2,1500	12	,97654	,80	3,40
Total	2,3657	35	,95361	,00	3,80

Table 4.3.b.2: Teachers' Computer Competency in terms of Experience – ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
SCORE * EXPGROUP	Between Groups (Combined)	6,996	2	3,498	4,479	,017
	Within Groups	23,923	32	,748		
	Total	30,919	34			

Table 4.3.b.3: Teachers' Computer Competency in terms of Experience – Post Hoc Tests

Multiple Comparisons

Dependent Variable: Computer Score
Bonferroni

(I) years at job	(J) years at job	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower bound	Upper bound
1-10	11-19	1,0348*	,36092	,022	,1230	1,9467
	20-+	,8682	,36092	,066	-,0437	1,7800
11-19	1-10	-1,0348*	,36092	,022	-1,9467	-,1230
	20-+	-,1667	,35299	1,000	-1,0585	,7251
20-+	1-10	-,8682	,36092	,066	-1,7800	,0437
	11-19	,1667	,35299	1,000	-,7251	1,0585

*The mean difference is significant at the .05 level.

Q.3.c   Teachers' Perceived Computer Competency Level in terms of Possession of Computer at Home

In this part, means of teachers' computer competency scores were compared in terms of having or not having a computer at home to see if there is a significant difference in teachers' perception of computer competencies. None of the cases were excluded and analysis was based on 35 cases. One-way ANOVA was used to analyze the variables.

As it is seen from Table 4.3.c.2, observed F = 1, 08, and p =0, 31, ($F_{0, 05}$ = 4, 15). Since the observed F ratio is not in the critical region, we can say that there is no significant difference in teachers' perceived computer competencies in terms of having or not having a computer at home.

However, the teachers who have computer at their home (M =2, 43) had higher mean score than the teachers who have not computer at home (M =1, 90) (see Table 4.3.c.1).

Table 4.3.c.1: Teachers' Computer Competency in terms of Possession of Computer at Home – Computer Competency Score

COMPATHOME	Mean	N	Std. Deviation	Minimum	Maximum
No	1,9000	4	,20000	1,60	2,00
Yes	2,4258	31	,99698	,00	3,80
Total	2,3657	35	,95361	,00	3,80

Table 4.3.c.2: Teachers' Computer Competency in terms of Possession of Computer at Home –
ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
SCORE * COMPATHM	Between Groups (Combined)	,980	1	,980	1,080	,306
	Within Groups	29,939	33	,907		
	Total	30,919	34			

Q.3.d   Teachers' Perceived Computer Competency Level in terms of Possession of Computer at School to use

In this part, means of teachers' computer competency scores were compared in terms of availability of a computer at school to use to see if there is a significant difference in teachers' perception of computer competencies. None of the cases were excluded and analysis was based on 15 cases. One-way ANOVA was used to analyze the variables.

As it is seen from Table 4.3.d.2, observed F = 0, 30, and p = 0, 59, ($F_{0, 05}$ = 4, 15). Since the observed F ratio is not in the critical region, we can say that there is no significant difference in teachers' perceived computer competencies in terms of availability of a computer at school to use.

Unexpectedly, the teachers who have not computer at school to use (*M*=2, 54) had higher mean score than the teachers who have computer at school to use (*M*=2, 32) (see Table 4.3.d.1).

Table 4.3.d.1: Teachers' Computer Competency in terms of Possession of Computer at School –
Computer Competency Score

COMPATSCH	Mean	N	Std. Deviation	Minimum	Maximum
No	2,5429	7	1,29982	,00	3,80
Yes	2,3214	28	,87151	,80	3,80
Total	2,3657	35	,95361	,00	3,80

Table 4.3.d.2: Teachers' Computer Competency in terms of Possession of Computer at School – ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
SCORE * COMPATSCH	Between Groups (Combined)	,275	1	,275	,296	,590
	Within Groups	30,644	33	,929		
	Total	30,919	34			

4.2 Results of Qualitative Data

Question 4: What are the expectations of teachers from "Bilgiye Erişim Portalı"?

Q1 - The opinions about the benefits of reaching and using the lesson, unit and yearly plans which was presented on "Bilgiye Erişim Portalı"

All of the teachers said that they wanted to use those plans. The benefits that the teachers mentioned were grouped as follows:

- Exchange of views
- Information sharing
- Time saving
- Standardization at education
- Professional development
- Increase in computer usage
- Follow-up of the up to date information

While answering this question, one of the teachers reflected this situation as follows: "We can follow the innovations in our subject and we can develop ourselves in terms of professional. Moreover we can get different ideas and chance to examine and apply them". (1)

In the above illustration, the teacher explained what he thought about the benefits of the portal. Similarly, other teachers expressed the benefit she thought. She approached to this situation as standardization. She indicated that "Everyone send their plan to this site, the people who are expert on this are will collect all of them and prepare a standard plan that everyone can use it as it is"(2).

Another teacher added that "Every year we have to prepare new yearly plan. If experts prepare these plans and publish on this site, there will be standardization. Every teacher will use the same plan and this will increase education quality"(3).

Furthermore, the teachers also mentioned the benefits of reaching lesson plans, yearly plans and so on from the portal as information sharing and time saving. For example, one of them commented on this as follows: "Because the plans were already created, we will not need to create them again, so it will save our time by using others plans, new materials, applications will be get. Also, we can get new information from our colleagues" (4).

Moreover, one of the teachers reflected this situation as follows: "We can share our information. The teachers who are experienced say their experiences, and the inexperienced ones state the innovations they learn on their school" (5).

One of the benefits mentioned was exchanging of views. For example, one of the teachers declared this as follows: ". . . we will have the chance to get new ideas. We can develop ourselves in terms of professional by this way. Exchanging of views will help us to learn new methods, application and so on" (6).

Unlike the others, some of the teachers declared that this portal would only help to increase the computer usage. One of them mentioned his ideas as follows:" To examine these plans will only increase the computer use. In order to find these plans every teacher have to use computers, and so increase in computer use" (7).

Q2 - The opinions about the benefits of examining and using the visual materials, questions banks, new instructional methods presented on "Bilgiye Erişim Portalı"

The benefits that the teachers mentioned were grouped as follows:
- Exchange of views
- Follow the up to date information
- Information sharing
- Time saving
- Standardization at education
- Professional development

- Increase in success rate

- Follow-up of the up to date information

- Research

As indicated above, the teachers thought that the most beneficial part of examining and using the visual materials, questions banks, new instructional methods was exchanging ideas and professional developments. Similarly, the teachers also revealed the resembling benefits in this question.

The most beneficial part of examining and using the visual materials, questions banks, new instructional methods was exchanging ideas.

Differently from the previous questions, the teachers also indicated that there would be an increase in success rate. For example, the following is an example that illustrates the increase in success rate. She uttered "It will help to address different type of students and to teach different type of subjects in various ways, and so increase the success rate" (8).

Moreover, they also mentioned that the new instructional methods, visual materials would help them to improve themselves as professionally.

One of teachers mentioned that: (9)

> . . . New instructional methods and related materials to these methods make our lessons more effective. I can not utilize all instructional methods in my lessons, because I do not know all of them. By this way, I will have to chance to follow, examine and apply the new methods. This will help me to improve myself.

Furthermore, In addition to these benefits, the teachers also indicated that examining and using the visual materials, questions banks, new instructional methods would save their time and help to follow up to date information. For example, the following is an example that illustrates time saving. She stated "I can't catch all of the new information. It takes too much time and it's too difficult to follow all of the new information. But this site might help us to follow them in a short time" (10).

Q3 - The opinions about benefits of getting knowledge from the web site about the subjects that support the professional development, and if they wanted to reach online in-service training, the results of educational activities such as panel and symposium, thesis, e-journal, feature of experts etc. presented on "Bilgiye Erişim Portalı"

Fourty percent of the teachers answered as "Yes" to online in-service training, 53,33 percent of them answered as "No" , and 6,67 percent of them answered as "No idea". The teachers who answered as "No" to this question said that "Face to face interaction is more effective at in-service training. We can change our ideas"(11).

The proponent of the teachers were complaining about not to be able to participate to the in-service training programs. They were complaining about the time and the place of the programs. Unlike the teachers who were negative on this subject, one of the teachers revealed as follows: "Online in-service training will defeat the time and place problem. Everyone can participate from their home"(12). Another teacher also uttered as follows: "we can't participate in in-service training because most of them are arranged in different cities, by this way we can participate them"(13).

Ninety three point thirty three percent of the teachers answered as "Yes" to reach the results of educational activities such as panel and symposium, thesis, e-journal, feature of experts etc., 6,67 percent of them answered as "No" to this question. One of the teachers who answered as "No" to this question said as follows: " I prefer to use written materials, since they are more effective"(14).

The benefits that the teachers mentioned were grouped as follows:

- Follow-up of the up to date information
- Professional development
- Time saving
- Increase in lesson quality
- Exchange of views
- Information sharing

Q4 - The opinions about the online certification programs given from the portal, and whether it was effective than the classical methods

Seventy percent of teachers answered this question as "Yes", 30 percent of them answered as "No" to this question.

Similar to the teachers who revealed as "Yes" to in-service training, the teachers were also favor of online certification programs. The following quotation signifies this view ". . . it will be easier, since it is visual and interactive, and also time is not a problem" (15).

The teachers who replied as "Yes" mentioned the benefits as follows:

- Arriving to everyone
- Visual
- Free from time and location
- Interactivity
- Easy

Most of teachers preferred online certification programs due to the interaction. One of them reflected "Interactivity provides us immediate feedback, easy navigation and chance to repeat the subject" (16).

Furthermore, they were pleased with being free from time and location. The following quotation sets to be a good example that illustrates this situation:

> I have a little baby, so I can not participate to the programs when they are organized in different cities. However; if these programs are given on the portal, I can attain them after my child sleep. The time is also a problem. But, online certification programs can eliminate this problem also. I can continue whenever I want, even at nights. (17)

However, the teachers who answered as "No" mentioned the reasons as follows:

- Face to face is more effective
- Certificate is not suitable

Q5 - The opinions about the effects of reaching the body of current law from the portal on their professional lives

The effects that the teachers expressed grouped as follows:

- Professional development

- Follow-up of the up to date information
- Defense of the rights
- Preventing not to make error
- Applying instructions properly
- Easy and fast arriving to information

Most of the teachers wanted to reach the body of current law from the web site whenever they want, and mentioned that it would be really helpful in order to learn and defend their rights, and to make the instructions be applied properly. One of them said " if I learn my rights, I can easily defend myself" (18).

However, minority of them expressed that it would cause mass of unnecessary information. One of the teachers revealed the reason as follows: ". . . revealed the reason as follows: "… there is too much unnecessary information to follow. Everyday, a new body of current law is published. We can't do our jobs if we try to follow all of them" (19).

Q6 - The opinions about whether the teachers wanted to reach their personal and professional information from the portal

Majority of the teachers would like to reach their personal and professional information from the portal. They get bored with the bureaucracy to reach this information. They wanted to control their personal information. One of the teachers explained why she preferred to reach her professional and personal information, and she relied her arguments on common sense "it will be helpful for time-saving and also it is a fast and easy way to reach our information. Because bureaucracy takes our time" (20). Another teacher explained this situation as follows: " I was a teacher for 15 years. However; on my professional information, I was seen as an intern. Such errors are made continuously. If I can control my information, I can prevent errors" (21).

The teachers who said "Yes" grouped their reasons as follows:
- Control of information
- Easy and fast arriving to information
- Time saving

However; the rest of the teachers did not want to attain this information, since they considered this information as private, and they did not crave to view it on the web.

Q7 - The opinions about whether the teachers wanted to view the success rate of the other schools at central exams

A considerable number of the teachers (91, 30%) explained why they wanted to view the success rate of the other schools at central exams. The reasons they expressed as follows:

- Information sharing
- Comparison with other schools
- Control of their success rate
- Take caution

The teachers revealed that the success of students were also the success of them. Hence, they could control their success rate and take cautions to increase this rate.

However, some of the teachers were complaining about the differences between the schools and they claimed that the results of these exams were not realist. They assumed that the differences between the schools impeded the comparison, since all the schools had different opportunities. The following quotation sets to be a good example that illustrates a teacher's concern on the differences between schools as "Not all the schools have the same opportunities. There are many differences between the schools which may affect the success rate of the schools. So it is meaningless to compare the different schools . . ." (22).

Q8 - The opinions about the benefits of communication with students by means of portal by sending and receiving e - mails.

The teachers were interested in the communication with students by means of portal. They were very concerned with giving news to the students. They thought that by sending e-mail to the students, students would be aware of the news about the school, exams, and also job opportunities.

In addition to news, the teachers were highly satisfied with documentation.

One of teachers said "it helps us for documentation. Since we have a document, students can not claim the opposite" (23).

Moreover, the teachers were highly satisfied with fast communication. One of teachers indicated "I won't try to reach all of the students one by one. I will send e-mail, and all of them will get it" (24). Furthermore, it was explained that cooperating with parents was also possible by sending e-mail and the cost of delivery would also decreased. Sometimes, students forgot to conduct news to his/her parents. Thanks to this, they could deliver them. For example, one of the teachers explained that "if I can send e-mail to the parents, they can come to meetings, and learn their child's notes (25).

The benefits they mentioned grouped as follows:

- Documentation
- Giving news to the students
- Take students' attention
- Cooperation with parents
- Decrease in post cost
- Fast communication

Q9 - The opinions about whether the teachers wanted to be a member of e – mail group inside their school, and the benefits of this group

When the researcher first asked this question, some of the teachers mentioned that they already had an e-mail group between their colleagues. And they revealed that this group was quite helpful for communication. Furthermore, they added that an e-mail group within the whole school would be more beneficial. The benefits they mentioned grouped as below:

- Time saving
- Personal development
- Easy and fast communication
- Easy and fast arriving to information
- Useless if mail are not checked daily
- Individualism, loneliness
- Hiding of real feelings

As stated before; one of the teachers mentioned as follows: ". . . communication will be really easy. We can know about the date and time of meetings, ceremonies etc. even though we are not at school" (26).

As an example of teachers who were in favor of e-mail group within school, one of the teachers mentioned as follows: " We are get rid of reading all the announcements. We can follow them by e-mails" (27).

Unlike the above quotation illustrates, minority of the teachers (29, 16 %) behaved coldly towards this idea. The reasons they expressed grouped as below:

They were on the opinion that most of the teachers would not check their mailboxes daily. So it would be useless, since they would hear the news a few days (maybe more) later.

Q10 - The opinions about whether the teachers wanted to be a member of e – mail group between their colleagues (all the MoNE teachers), and the benefits of this group

Majority of teachers (85, 16 %) had complaints about not knowing about announcements on time. They uttered that the announcements were usually coming on the last day. The following quotation sets to be a good example that illustrates a teacher's concern on the announcements delay.

> . . . I missed most of the activities, especially in-service training programs and appointment applications. Because the announcements came to the school late, we know about some of the activities on the last day or a few days later. If the announcements were proclaimed by e-mail, we do not miss them. (28)
> The benefits they mentioned grouped as below:

- Exchange of views
- Professional development
- Information sharing
- Knowing about the announcements on time
- Follow-up of the up to date information
- Easy arriving to information

Although, most of teachers considered this situation as beneficial, some of the teachers (14, 84 %) found it as unnecessary.

Q11 - The opinions about the problems that could be appeared when "Bilgiye Erişim Portalı" was used

At the beginning of the interview, none of the teachers had enough knowledge about this portal. After a short introduction about the definition of portal and its contents, they stated that an in-service training should have been given to the teachers about this portal. One of the teachers mentioned a possible problem as "I will not try to prepare the yearly or lesson plans myself" (29).

Q12 - The opinions about the contributions of "Bilgiye Erişim Portalı" to the education

As mentioned above, at the beginning a short presentation has been submitted. However, 3, 33 percent of the teachers answered as "No idea" to this question. The others revealed the possible contributions they would expect as follows:

- Exchange of views
- Follow-up of the up to date information
- Professional development
- Time saving
- Effective communication
- Easy and fast arriving to information
- Standardization at education
- Increase in education quality
- Coordination between teacher-student-parents
- Information sharing
- Need Analysis
- Application of technology at education

As shown from the results, many of the teachers had an expectation to follow the up-to-date information. They were complaining about getting lost in Internet to find new information. They stated that if this type of information presented, they could follow up to date information, and so increase the education quality.

For example, one of them commented on following up- to-date information as follows: "I think it was necessary; because we started to repeat ourselves. We need to follow the innovations on our subjects" (30).

Besides, many of the teachers had an expectation to standardization at education. They were complaining about different types of yearly plans. For example, one of them commented on standardization as follows: "Although the curriculum is same, the applications and the resources each teacher uses can differ. For standard subjects, standard applications can be determined" (31).

Moreover, it was seen that the teachers expected to integrate technology into education. For instance, the following is a good example that illustrates integration of technology. She said "we can adopt technology to our lessons. We can use some applications from this site and present it to our students via computer" (32).

In addition to above illustration, one of the teachers indicated that they could deliver their needs to Ministry of National Education. He stated as follows: "By using this site, we can send our demands to the MoNE ,and they can do needs analysis by the help of questionnaires" (33).

Q13 - The opinions about the contributions of "Bilgiye Erişim Portalı" to teachers' professions.

The contributions that the teachers mentioned expressed as follows:

- Exchange of views
- Professional development
- Standardization at education
- Follow-up of the up to date information
- Increase in computer knowledge
- Information sharing
- Use of technology
- Easy and fast arriving to information
- Avoid of being stereotyped

Similar to the results above, the most of the teachers were on the opinion that this portal also would be helpful for following up to date information. Moreover, they expected this portal to help their professional development.

The same teacher, whose declaration mentioned above, stated the same thought again. She added that "Following innovations will prevent teachers being cliché. We can improve ourselves" (34). One of the teachers was complaining about being stereotype. He thought that this portal would avoid being stereotype.

CHAPTER 5

CONCLUSIONS AND DISCUSSIONS

This chapter provides a summary of the study, major findings from the study, discussions and implications and recommendations. Major findings and discussions will be organized that each research question is associated with a finding and a latter discussion.

5.1   Summary

Information and communication technologies (ICTs) are getting a critical part of the education. Teachers must be aware of the advantages and disadvantages of ICTs in education, be competent users of ICTs and their integration into education. Otherwise, our teachers as well as our education system will not struggle with the challenges of modern information era. This study was undertaken to explore the teachers' competency to use computers at schools effectively, and their expectations and needs toward "Bilgiye Erişim Portalı".

5.2   The Purpose of the Study

Because of the changing and advancing nature of technology, the variety of innovations will probably continue to expand with the availability of new technologies (Kjetsaa, 2002). The uncontrollable development in computer technologies over last decades has also influenced the teaching profession. So, it is expected that professional organizations, university academics, and community policy makers have recognized an imperative and pressing need to integrate technology in all levels of educational efforts.

Without hesitation, today's contemporary teachers are expected to be competent users of technology and be the experts of technology integration.

As being a necessity, teachers must primarily master ICTs in order to be able to integrate them
into their teaching.

As Yasin (1998) stated only the persons having technologically literate and capable citizens can contribute to a country's development.

Professional development of teachers is a dynamic framework and it will only be updated in accordance with new research, educational theories, and responses from teachers (Teachers as Innovators, 2000). Similarly, the success of any new educational program depends strongly upon the support and position of the teachers involved in the system (Woodrow, 1992).

Teachers with favorable perception of technology will believe that ICTs make their teaching more pleasant and interesting for both the teacher and their students. They will be more willing to overcome barriers relating to deficiencies of resources, technical problems and a lack of technical support. They will be eager to spend personal time for developing their competencies and their integration into classrooms. Moreover, they will be interested in helping their colleagues to develop their competencies as well.

The purpose of this study to explore was the teachers' competency to use computers at schools effectively and their expectations from "Bilgiye Erişim Portalı".

5.3 Major Findings and Discussions

Question 1: What are perceived competency levels of teachers about the use of computers?

Teachers' Computer Competencies

It was found that the Computer Competency Scale had a lowest mean score ($M = 1, 58$), and had a highest mean score ($M = 3, 90$).

The highest mean score ($M = 3, 90$) was observed in Word Processing, and the lowest mean score ($M = 1, 58$) was observed in Presentation and Desktop Publishing Software. This implies that teachers are competent about Word Processing; however, they are definitely not competent about Presentation and Publishing Software.

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The teachers may use Word Processing more frequently than the other programs. That is why; they are more used to it. Actually, Presentation and Desktop Publishing Software is not harder than Word Processing programs. However, projector devices are not commonly used in schools. So, the teachers use these programs less frequently. If they are provided with the require equipments and they are encouraged to use these programs, the competency level of teachers will increase.

Data analysis of the research showed that the teachers feel themselves *Partially Competent* about computers (*M*=2, 71).

Question 2: What are the effects of having a computer course and buying the notebook given by Ministry of National Education on teachers' computer competencies?

Q.2.a. Effects of Having a Computer Course on Computer Competency Scores

It was found that 1, 4 percent of the variance in teachers' computer competency score was explained by having a computer course, and there was no significant effect of having a computer course on teachers' perceived computer competency level. F (1, 33) = 0,470, p = 0,498.

This means that not all the teachers having computer course feel themselves competent about computers, and also not all the teachers not having computer course feel themselves not competent about computers. This might be implied that having a computer course was not sufficient for teachers to feel themselves competent about computers. Unless they put what they have learnt in course into practice, they can't improve themselves in terms of computer competency.

Q.2.b. Effects of Buying Notebook on Computer Competency Scores

It was found that 5, 1 percent of the variance in teachers' computer competency score was explained by buying the notebook given by MONE, and there was no significant effect of buying notebook on teachers' perceived computer competency level. F(1, 33) = 1,759, p = 0,194.

This implies that not all the teachers buying notebook feel themselves competent about computers. The reasons why they buy this notebook can vary. It can be definitely concluded that teachers did not buy these notebooks to use them in their

classes. They use them for very simple activities such as games, internet etc., or some of them bought these notebooks for their family. So, buying notebook does not mean that all the teachers are competent about using computers.

They should be forced to use the computers in their lessons to increase computer scores.

Question 3: Is there any significant difference between the teachers' perceived computer competency level and the following demographic: (a) gender, (b) experience in years, (c) possession of computer at home, and (d) possession of computer at school to use?

Q.3.a   Teachers' Perceived Computer Competency in terms of Gender

From the statistical results of the research, it was found that F = 2, 26 and p = 0,14 ($F_{0, 05}$ = 4, 15), and there is no significant difference in teachers' perceived computer competencies in terms of gender. However, the male branch teachers had higher mean score (m=2, 66) than female branch teachers (m=1, 17).

There are number of researches which indicate there is a significant relationship between gender and technology perception (Shashaani, 1994; Sadera, 1997; McHaney, 1998; Gilley, 2002). However, there is a contradiction between these findings and the finding of this study.

This contradiction might be explained by what Holden (1997) and Halpern (2002) proposed. According the results of Holden's study, it was claimed that not all females feel not competent with technology, and also not all males were computer competent.

Additionally, Halpern (2002) discussed the gender differences with respect to intelligence. The study was focused on which gender is smarter and concluded that we had only information about average differences, which sometimes favor females and sometimes favor males. Likewise, most of the study demonstrating group difference and similarities were always derived from group averages. However, no one is average. Thus, the results cannot be applied to any individual because there is a great deal of overlap in all of the distributions of abilities. Halpern made a great closure by stating that as we focused on effective educational practices for genders, the data from different studies might change, but the major goal of educating all children will not.

The nature and existence of a gender gap in computer usage, especially subsequent to IT innovations in various workplace, and computer-related attitudes, perceptions and values have been extensively studied in psychology, education, and educational computing literature over the last two decades. For instances; Altun (1996) applied a study on lecturers' attitudes and expertise with reference to Turkish teacher education by considering IT. At the end of his study, it was recommended that the age and gender differences might be important factors, which should be investigated in prospective studies.

It was anticipated that the challenge of increasing girls' interest in and skills with computers has serious social and economic consequences if left unaddressed. The gender gap in technology has become so deep that it covers everything from the number of female computer science majors to differences in each gender's conceptualizations of their computer ability (Miller, Chaika, & Groppe, 1996).

The research literature over the past decade has definitely documented that women have overwhelmingly less positive attitudes toward computers than men do. The existence of such a significant gender gap allows little optimism that women's participation in computing may change dramatically in the near future (Shashaani, 1994). Female avoidance of the sciences and technical subjects has frequently been attributed to the effects of sex-stereotyping and the hidden curriculum within schools (Pauline & Alan, 1996). Bergen (2003) discussed the gender calling as feminization of the teaching profession. Bergen asserted that there are differences between countries, yet in most cases the majority of teachers are female, and the profession is becoming more feminized around the world.

In 1997, one study has been published announcing the closing or narrowing of the gender gap. A Gallup poll co-sponsored by CNN, USA Today, and the National Science Foundation (NSF) proclaimed that there was a relatively small difference between girls and boys in terms of their general orientation toward technology (U.S. Teens and Technology, 1997). Furthermore, teenage boys and girls reported equal levels of computer usage, similar levels of use of various electronics and expressed equal levels of confidence in their computer skills. The report found two major differences that boys played video games more than girls and spent

significantly more time on Internet than girls. The study (Miller, Chaika, & Groppe, 1996) tended to strengthen the perception that computers were "boy's toys".Characteristics of gaming strategies for computers almost always matched to the characteristics desired by boys. Mumtaz (2001) tried to expose how children perceive and enjoy computer use in school and at home. A gender difference was found that boys spent more time playing computer games whereas girls spent more time on the Internet emailing friends.

Lynch (2001) was conducted a study to provide evidence of factor scale validity and reliability for an instrument measuring constructs to demonstrate motivation to use technology in learning and future teaching among preservice teachers. Analysis on gender revealed that females had higher value-beliefs for technology and less technology skill self-efficacy than males. Males were found to have higher technology skill self-efficacy and lower value-beliefs.

Pawloski (2003) asked whether there was a significant difference between male and female students' ratings of the preparation to teach with technology provided by their institution. A statistical t test revealed that female students gave significantly higher scores of the preparation to teach with technology provided by their institution (*M*=2.66, *SD*=.95) when compared to the scores provided by their male classmates (*M*=2.19, *SD*=.90).

Hunt and Bohlin (1993) did not find any significant differences in attitudes toward computers with respect to gender variable for their study. Furthermore, they paralleled their study findings with Koohang (1989, as cited in Hunt & Bohlin, 1993)

By summing up these studies, the contradiction comes from the nature of gender, and should not be defined with strict boundaries that female less favorably perceives technology than males.

Q.3.b   Teachers' Perceived Computer Competency Level in terms of Experience (in years)

From the statistical results of the research, it was found that F = 4, 48, and p =0, 02, ($F_{0, 05}$ =3, 30), and there is a significant difference in teachers' perceived computer competencies in terms of experience. The teachers' mean score (for group 1, *M*= 3, 02) who are less experienced in teaching are higher than the teachers' mean score

(for groups 2 and 3, *M*= 1, 98, *M*= 2, 15) who are more experienced in teaching.

This is not a surprising case. Computer was not as widespread as today up to last fifteen years. Therefore, majority of those teachers couldn't catch the innovation of computing, and they lack of computer competency skills. However, the teachers' mean score for group 2 are less than the teachers' mean scores for group 3.

Experience in years can be mostly considered in terms of age, and age also can be discussed for perceived computer competency levels of teachers. In literature, age supposed to be an important factor for inservice teacher. For instance, in the study of Russell G. et al. (2000), it was noted that teachers' possession of skills appeared to be related to their age, as younger teachers had more skills than older teachers. Moreover, in the study of Russell G. et al. (1999), teachers' possession of skills appeared to be related to teachers' age as younger teachers had more skills than older teachers. Eighty-two per cent of 20 to 30 year old teachers had all the basic skills compared with 64% of over 50 year old teachers ($N = 1258$).The finding of this study supports the the findings of previous studies.

In the Science and Engineering Indicators report of National Science Board (2002), it was stated that less experienced teachers were also generally more likely than more experienced teachers to use these technologies to access model lesson plans at school and at home.

Nanasy (2001) illustrated the older teachers were less comfortable working with students and computers than the younger teachers.

Q.3.c Teachers' Perceived Computer Competency Level in terms of Possession of Computer at Home

From the statistical results of the research, it was found that F = 1, 08 and p =0, 31, ($F_{0, 05}$ = 4, 15), and there is no significant difference in teachers' perceived computer competencies in terms of having or not having a computer at home.

However, the teachers who have computer at their home (*M* =2, 43) had higher mean score than the teachers who have not computer at home (*M* =1, 90).

In literature, the results of Sadera's work (1997) designated that participants with computers at home and those with computer experience, had higher levels of computer competence and could conceptualize more sophisticated ways of using the

computer in the classroom in contrast to less computer experienced.The evidence from Gurbuz et al.'s study (2001) gives support to previous findings of Sadera. Gurbuz et. al observed that possessing a home computer amplified teachers' access to computers and willingness to learn more about computers. Wilkes (2001) proposed that supplying the educators with the opportunity to use district computers and other technological equipment at their homes might increase the use and integration of technology into classroom. Possession of home computer will offer the educators to learn about technology, software, installing software, troubleshooting, and the Internet on their own time and at their own pace. While the computer competency and confidence level of educators will increase, simultaneously, the use of the computer may be integrated into every classroom at every grade level and subject areas.

In School Technology and Readiness report of CEO Forum (1999), it was established a link between possessing a computer and boundaries in education, such that: in addition to the inequities in school, inequities continue in the home. Disparity in home computer ownership could increasingly intensify barriers in opportunity. Especially as technology fosters communication and collaboration among parents, teachers and students; and anytime, anywhere learning breaks down traditional boundaries in education. (p. 266)

Davis (2003), more radically declared that possession and usage of computers at home is extremely important for developing digital skills than availability of computers in the school.

Contrary to the ideas of others, in Science & Engineering Indicators report (2002) remarked that albeit computers were widespread in United States' schools, many teachers felt unprepared to incorporate technology into the subjects they teach. Additionally, Nanasy (2001) asserted that even though, all of in-service teachers had a home computer, actual hours per week spent using the computer seemed relatively low.

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Q.3.d   Teachers' Perceived Computer Competency Level in terms of Possession of Computer at School to use

From the statistical results of the research, it was found that F = 0, 30 and p =0, 59, ($F_{0, 05}$= 4, 15), and there is no significant difference in teachers' perceived computer competencies in terms of having or not having a computer at school.

Unexpectedly, the teachers who have not computer at school to use (*M*=2, 54) had higher mean score than the teachers who have computer at school to use (*M*=2, 32). It can be concluded that the teachers do not use computer at school adequately. The availability of computer at school do not have any effect on computer competency due to ineffective usage.

Question 4: What are the expectations of teachers from "Bilgiye Erişim Portalı"?

In the light of the findings of the study, unfortunately, it has been realized that the teachers are not aware of "Bilgiye Erişim Portalı". However, it has seen that after a short presentation, they had an idea about this web site and they mentioned their expectations, insights and feelings about why this site can be useful or why not. These can be listed as follows:

- Exchange of views
- Information sharing
- Time saving
- Standardization at education
- Professional development
- Increase in computer usage
- Increase in success rate
- Follow-up of the up to date information
- Increase in lesson quality
- Defense of the rights
- Applying instructions properly
- Preventing not to make error
- Information sharing
- Documentation

- Giving news to the students
- Comparison with other schools
- Cooperation with parents
- Easy and fast communication
- Knowing about the announcements on time
- Coordination between teacher-student-parents
- Application of technology at education
- Avoid of being stereotyped
- Increase in productivity

5.4   Implications

This study contributes to a better understanding of the teachers' competency to use computers at schools effectively and the expectations of teachers from "Bilgiye Erişim Portalı". The data from the study indicated that there was a significant difference in teachers' perceived computer competencies only in terms of experience. It was seen that there was no significant difference on teachers' perceived computer competencies in terms of gender, possession of computer at home and at school and also having a computer course and buying notebook given by MONE.

Moreover, this study declared the expectations of teachers' from "Bilgiye Erişim Portalı". These expectations may provide useful information for web-site developer and policymakers.

5.5   Recommendations

Based on the findings and discussions, the following recommendations are offered:

1. Computer competency skills like spreadsheets and desktop publishing programs should be emphasized so as to increase the level of their technology integration.
2. Teachers' computer use should be encouraged in order to increase the level of their technology integration.
3. Teacher demonstrate their competencies and willingness to use technology in teaching.

4. Teachers should have an in-service training about this portal and its use.

5. Teachers' expectation level was so high about the portal and its services, they should not be disappointed.

6. The policymakers should consider the expectations and needs of teachers' listed above.

7. As declared in the literature, teachers directly shape the success or failure of using computers in education (Collins, 1990). For the success of educational portal, main users' trainings needs have to be considered.

5.6   Recommendations For Future Research

1. In that study, convenient sample was used. To have general idea about portal expectations of teachers in Turkey, broad study can be conducted with randomize sample.

2. This study can be conducted to explore pre-service teachers expectations form portal.

3. The relationship between attitudes and computer competency level can be conducted.

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APPENDIX A

ÖĞRETMENLERİN BİLGİSAYAR BİLGİSİ DÜZEYLERİNİ ÖLÇEN ANKET

Değerli öğretmen arkadaşım;

Bu anket, öğretmenlerin bilgisayar düzeylerini ve derslerde bilgisayardan ne kadar ve ne şekilde faydalandıklarını değerlendirmek için hazırlanan araştırmaya baz olacak verileri toplamak için hazırlanmıştır. Bu ankete vereceğiniz cevaplar tamamıyla bilimsel amaçlar için kullanılacak ve başka hiçbir kurum ve kuruluşa verilmeyecektir. Bu ankette çoktan seçmeli soru kullanılmıştır. Bölüm başında gerekli açıklamalar yapılmıştır.Anketi cevaplayarak araştırmaya yaptığınız katkıdan dolayı teşekkür ederim.

Araştırmacı: Gökçen HATİPOĞLU

ORTA DOĞU TEKNİK ÜNİVERSİTESİ   Eğitim Bilimleri Bölümü
e-posta: e111804@metu.edu.tr

KİŞİSEL BİLGİLER

➢ Görev yaptığınız okul:

➢ Branşınız:

➢ Cinsiyetiniz: Bayan ( )   Bay ( )

➢ Yaşınız:

➢ Mezun olduğunuz okul ve bölüm:

➢ Hizmet süreniz (yıl olarak):

➢ Çalıştığınız okulda ihtiyaç duyduğunuzda kullanabileceğiniz bilgisayar var mı ?
Evet ( )   Hayır ( )

➢ Cevabınız Evet ise, İnternet erişiminiz var mı ?   Evet ( )   Hayır ( )

➢ Evinizde kullanabileceğiniz bilgisayarınız var mı? Evet ( )   Hayır ( )

➢ Bundan önce bilgisayar ile ilgili ders/eğitim aldınız mı? Evet ( )   Hayır ( )

➢ Aldıysanız eğitimin içeriğini tanımlayınız:

➢ MEB tarafından yürütülen Her Öğretmene Bir Bilgisayar kampanyası kapsamındaki dizüstü bilgisayarlardan almayı düşünüyor musunuz? Evet ( ) Hayır ( )

BİLGİSAYAR BİLGİSİ

YÖNERGE: Lütfen aşağıdaki soruların her birini cevaplayınız. Her bir yeterlik için, yeterlik ile ilgili bilginiz varsa **EVET** 'i işaretledikten sonra, söz konusu yeterlikle ilgili tüm soruları cevaplayınız. Yeterlik ile ilgili hiçbir bilginiz yoksa **HAYIR** 'ı işaretledikten sonra o alandaki soruları boş bırakıp, diğer yeterlik alanına geçiniz.

AÇIKLAMALAR:

1. <u>Aşina Değilim:</u> Öyle bir işlevin var olduğunu bilmiyorsanız veya biliyor olsanız bile nasıl yapılacağı konusunda bilginiz yok.

2. <u>Biraz Aşinayım:</u> Öyle bir işlevin var olduğunu biliyorsunuz, birkaç kere yaptınız veya birisini yaparken gördünüz ve o işlevi kullanmaya ihtiyacınız olursa onu "yapabileceğiniz" konusunda kendinize güveniyorsunuz. Bunu yaparken birine ihtiyacınız olabilir.

3. <u>Biraz Biliyorum:</u> İşlevi daha önce kullandınız ve bazen hata yapsanız bile, dışardan yardım almadan yapabilirsiniz. Yanlış yapsanız bile deneme yanılma yoluyla "yapabileceğinizi" biliyorsunuz.

4. <u>Biliyorum:</u> İşlevi hiçbir sorunla karşılaşmadan çabukça yapabiliyorsunuz.

5. <u>Çok iyi Biliyorum:</u> İşlevi sorunsuz yerine getirebiliyor, ileri seviye işlemler yapabiliyorsunuz, ve başka birine söz konusu işlevi yerine getirmede yardımcı olabilirsiniz.

Yeterlik 1A: KELİME İŞLEM PROGRAMLARI (MS WORD): Kelime işlemci programlara aşinalığınız var mı? ( ) Evet → Birinci soruya devam edin. ( ) Hayır → Bir sonraki bölüme geçin.					
	Aşina Değilim	Biraz Aşinayım	Biraz Biliyorum	Biliyorum	Çok iyi Biliyorum
1. Bir doküman açabilme veya oluşturabilme					
2. Basit komutları kullanabilme (kes, kopyala, yapıştır gibi)					
3. Yazı karakterleri gibi basit biçimlendirme işlemlerini yapabilme (koyu, italik, altı çizili, yazı karakteri değiştirme, yazı rengi değiştirme)					
4. Nesne ekleme, nesne boyutunu değiştirme ve nesnenin yerini değiştirme gibi biraz daha karmaşık işlemleri yapabilme					

Yeterlik 1B: TABLO İŞLEMCİ UYGULAMALARI (MS EXCEL): Tablo işlemci uygulamalarına aşinalığınız var mı? ( ) Evet → Birinci soruya devam edin. ( ) Hayır → Bir sonraki bölüme geçin.					
	Aşina Değilim	Biraz Aşinayım	Biraz Biliyorum	Biliyorum	Çok iyi Biliyorum
1. Bir çalışma sayfası açabilme veya oluşturabilme					
2. Grafik eklemek veya satır ve sütunların boyutunu değiştirmek suretiyle sayfanın biçimini değiştirebilme.					
3. Formüller ve ileri seviyede düzeltme işlevlerini kullanabilme					
4. Rapor oluşturabilme ve çıktı alabilme					

Yeterlik 1C: YAZILIM UYGULAMALARI / INTERNET:
Internete aşinalığınız var mı?
( ) Evet → Birinci soruya devam edin.   ( ) Hayır → Bir sonraki bölüme geçin.

	Aşina Değilim	Biraz Aşinayım	Biraz Biliyorum	Biliyorum	Çok iyi Biliyorum
1. E-posta gönderme ve alma.					
2. Internetten dosya yükleme ve açma.					
3. Dosya ekleme veya FTP yoluyla dosya transfer etme.					
4. Internet üzerinde canlı-etkileşimli görsel veya işitsel iletişim araçlarını kullanma.					
5. Bir Internet Servis Sağlayacısının seçimi					
6. Internet erişiminin nasıl yapıldığı					
7. Tartışma siteleri, arama motorları ve benzeri Internet araçlarının kullanımı.					
8. Sık kullanılanların oluşturulması ve bunların kullanımı					
9. Göz gezdirici (Browser) seçeneklerini değiştirebilme.					
10. Görsel veya işitsel plug-in'lerin yüklenip kullanılabilmesi.					
11. Dosya birleştirme, dosya tarnsfer etme, tablo oluştruma veya düzeltme gibi ileri düzey kelime işlemci fonksiyonlarını kullanabilme.					

Yeterlik 1D: YAZILIM UYGULAMALARI / SUNUMLAR VE YAYINCILIK:
Sunum yaratma ve masaüstü yayıncılığa aşinalığınız var mı?
( ) Evet → Birinci soruya devam edin.   ( ) Hayır → Bir sonraki bölüme geçin.

	Aşina Değilim	Biraz Aşinayım	Biraz Biliyorum	Biliyorum	Çok iyi Biliyorum
1. Powerpoint gibi bir program kullanarak dersinizle ilgili bir sunum hazırlayabilme.					
2. Temel masaüstü yayıncılık tekniklerini kullanabilme.					

3. Kullanımı kolay programlardan biri ile bir Web sayfası hazırlayabilme.					
4. Grafik oluşturmak için çizim programlarını kullanabilme.					
5. Photoshop gibi programları kullanarak resimler üzerinde çalışabilme ve değişiklik yapabilme.					
6. Animasyon, ses vb. özellikleri içeren ileri seviye bir sunum hazırlayabilme.					
7. MS Frontpage, Publisher gibi programları kullanarak Web sayfası hazırlayabilme.					
8. HTML, Java veya diğer Web dillerini kullanarak Web sayfası hazırlayabilme.					

Yeterlik 2A: BAKIM/ONARIM:
Bakım-onarım ve tarayıcı ve yazıcı gibi destekleyici birimleri kullanmaya aşinalığınız var mı?
( ) Evet → Birinci soruya devam edin.   ( ) Hayır → Bir sonraki bölüme geçin.

	Aşina Değilim	Biraz Aşinayım	Biraz Biliyorum	Biliyorum	Çok iyi Biliyorum
1. Tarayıcı kullanbilme.					
2. Bilgisayarınıza video kamera ve mikrofon bağlayıp kullanabilme .					
3. Dijital kamera ile resim alabilme, bunları bilgisayarınıza kaydedebilme ve sonra bu resimlere erişebilme.					
4. Basit yazılım sorunlarını çözebilme.					
5. Basit donanım sorunlarını çözebilme (bilgisayarın modemi veya tarayıcıyı tanımaması yada kabloları doğru şekilde bağlanması gibi)					
6. Bilgisayar yazılımlarını güncelleyebilme.					
7. Bilgisayar donanımını güncelleyebilme veya ses kartı yada dahili birimleri kurabilme.					

ÖĞRETMENLERE YÖNELIK PORTAL İÇIN BEKLENTI TUTUM ÖLÇEĞI

Değerli öğretmen arkadaşım;

Bu anket, öğretmenlerin MEB tarafından hazırlanması planlanan eğitim içerikli web sitesi (Bilgiye Erişim Portalı) hakkındaki beklentilerinizi değerlendirmek için hazırlanan araştırmaya baz olacak verileri toplamak için hazırlanmıştır. Bu ankete vereceğiniz cevaplar tamamıyla bilimsel amaçlar için kullanılacak ve başka hiçbir kurum ve kuruluşa verilmeyecektir.Bu ankette açık uçlu soru kullanılmıştır.

Araştırmacı: Gökçen HATİPOĞLU
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KİŞİSEL BİLGİLER

➢ Görev yaptığınız okul:

➢ Branşınız:

➢ Cinsiyetiniz: Bayan ( )   Bay ( )

➢ Yaşınız:

➢ Mezun olduğunuz okul ve bölüm:

➢ Hizmet süreniz (yıl olarak):

➢ Çalıştığınız okulda ihtiyaç duyduğunuzda kullanabileceğiniz bilgisayar var mı ?

Evet ( )   Hayır ( )

➢ Cevabınız Evet ise, İnternet erişiminiz var mı ?   Evet ( )   Hayır ( )

➢ Evinizde kullanabileceğiniz bilgisayarınız var mı? Evet ( )   Hayır ( )

➢ Bundan önce bilgisayar ile ilgili ders/eğitim aldınız mı? Evet ( )   Hayır ( )

➢ Aldıysanız eğitimin içeriğini tanımlayınız:

➢ MEB tarafından yürütülen Her Öğretmene Bir Bilgisayar kampanyası kapsamındaki dizüstü bilgisayarlardan almayı düşünüyor musunuz? Evet ( ) Hayır ( )

1. Meb'in hazırladığı BEP üzerinde hazırlanmış olan günlük, yıllık ve ünite planlarına ulaşmak; bunları kullanmak ister misiniz? Sizce bu planları kullanmak mesleki anlamda ne gibi faydalar sağlar?
    a. Hazırladığınız günlük, yıllık ve ünite planları MEB'in hazırladığı BEP web sitesinde diğer meslektaşlarla paylaşmak sizce neden önemlidir?
2. Web sitesinde yer alan planları, sınıf etkinliklerini, görsel materyalleri, soru bankalarını ve yeni öğretim metotlarını incelemenin ve size uygun olanları kullanmanın size ne gibi faydaları olabilir?
    a. Bunlar hakkındaki görüşlerinizi belirtmek, yapılması gereken değişiklikler hakkında fikir alışverişinde bulunmak ister misiniz? Neden, neden değil?
    b. Bunların dışında bulunmasını istediğiniz diğer kaynaklar nelerdir?
3. Mesleki gelişimi destekleyici konularda web sitesinden bilgi almanın mesleki anlamda ne gibi faydalar sağlayacağını düşünüyorsunuz?
    a. Ne tip konuların web sitesinde yayınlanmasının faydalı olacağını düşünüyorsunuz?
    b. Hizmet içi seminerlerin web sitesinden verilmesini ister misiniz, sizce bu etkili bir yöntem midir? Neden, neden değil?
    c. Seminer, panel, sempozyum gibi eğitsel faaliyetlerin listesinin ve kısaca özetleri ile çıkan sonuçların buradan yayınlanmasını ister misiniz?
    d. Tez, makale, araştırma raporu, e-dergi gibi yayınların verilmesini ister misiniz?
    e. Uzman kişilerle yapılmış röportajlarının yayınlanmasını ister misiniz?
4. Web sitesinden verilen sertifika programlarına katılmak ister misiniz? Bu programların web sitesinden verilmesini klasik yöntemlere göre daha mı etkili buluyorsunuz? Neden, neden değil?
5. Mevzuatlara ulaşmak, yeni çıkan mevzuatlara ilişkin haberleri incelemek sizin meslek hayatınızı ne şekilde etkiler?
6. Kişisel ve mesleki hizmet bilgilerinize web sitesinden ulaşmak ister misiniz? Bu bilgilerin web sitesinden görüntülenebiliyor olmasının artıları ve eksileri nelerdir?

7. Okulların merkezi sınavlardaki başarı durumlarını görmek ister misiniz? Neden, neden değil?

8. Öğrencilerinizle web sayfası üzerinden haberleşmek size ne gibi konularda yardımcı olacaktır?

   a. Öğrencilerinizden e-posta almak ve onlara e-posta göndermek ister misiniz?

   b. Öğrencilerinize çeşitli haberleri bildirmek ister misiniz?

9. Okulunuzdaki öğretmenlerin kullandıkları e-posta grubuna üye olmak ister misiniz? Bu e-posta grubunun size nasıl fayda sağlayacağını düşünüyorsunuz?

   a. Okul içi haberleri e-posta ile almak ister misiniz?

10. MEB'in tüm öğretmenlerinin kullandığı e-posta grubuna üye olmak ister misiniz? Bu e-posta grubunun size nasıl fayda sağlayacağını düşünüyorsunuz?

   a. Farklı okullardan ve bu okullardaki öğretmenlerden haber almak ister misiniz?

   b. MEB'in yaptığı duyurulardan e-posta yoluyla haberdar olmak ister misiniz?

   c. MEB'in sitesinde sohbet etmek ister misiniz?

   d. MEB'in vereceği e-posta adresini kullanmak ister misiniz?

11. BEP kullanımında ortaya çıkabilecek olası problemler hakkındaki görüşleriniz nelerdir?

   a. Sizce öğretmenler bu portalın kullanımı konusunda yeterli bilgiye sahipler mi?

12. BEP'in eğitime sizce ne gibi katkısı olur?

13. BEP'in öğretmenlere mesleki gelişim açısından sizce ne gibi katkısı olur?

ÖĞRETMENLERIN PORTALA YÖNELIK BEKLENTI VE DÜŞÜNCELERI

(TEACHERS' EXPECTATIONS AND IDEAS TOWARDS PORTAL)

1. Alanımızdaki yenilikleri takip edip kendimizi mesleki açıdan geliştirebiliriz ve farklı fikirler edinme ve onları inceleme ve uygulama şansı bulabiliriz.

2. Herkes kendi planını bu siteye gönderir, bu konuda uzman olan kişiler bütün planları toplayıp standart bir plan hazırlar ve herkes bu planı olduğu gibi kullanabilir.

3. Her yıl yeni yıllık plan hazırlamak zorundayız. Eğer bu planları uzmanlar hazırlar ve bu sitede yayınlarlarsa, bir standartlaşma olur. Her öğretmen aynı planı kullanır ve bu da eğitimin kalitesini artırır.

4. Planlar önceden hazırlanmış olduklarından biz tekrar hazırlamak zorunda kalmayacağız, bu da zamandan tasarruf sağlayacak, diğer planları kullanarak, yeni materyaller, uygulamalar edineceğiz. Ayrıca, meslektaşlarımızdan yeni bilgiler edinebiliriz.

5. Bilgilerimizi paylaşabiliriz. Tecrübeli öğretmenler tecrübelerini anlatır, yeni öğretmenler ise okulda öğrendikleri yenilikleri anlatır.

6. Yeni fikirler edinme şansımız olacak. Bu yolla kendimizi mesleki anlamda geliştirebiliriz. Bilgimizi paylaşmak yeni metotları, uygulamaları ve benzer şeyleri öğrenmemizde bize yardımcı olacak.

7. Bu planları incelemek sadece bilgisayar kullanımını artıracak. Bu planları bulmak için her öğretmen bilgisayar kullanmak zorunda kalacak, böylece bilgisayar kullanımında artış olacak.

8. Farklı tipteki öğrencilere hitap etmekte ve farklı konuları değişik şekillerde anlatmakta bu sayede de başarıyı artırmada yardımcı olur.

9. Yeni öğretim metodları ve bunlarla ilgili materyaller derslerimizi daha etkili hale getirir. Bütün öğretim metodlarını derlerimde uyglayamıyorum, çünkü hepsini bilmiyorum. Bu sayede, yeni metodları takip etme, inceleme ve uyglama şansım olacak. Bu da kendimi geliştirmemi sağlayacak.

10. Yeni bilgilerin hepsini yakalayamıyorum. Çok zaman alıyor ve bütün yeni bilgileri takip etmek çok zor. Ama bu site, kısa zamanda bunları takip etmemize yardımcı olabilir.

11. Yüz yüze etkileşim hizmet içi eğitimde daha etkili. Bu sayede fikirlerimizi paylaşabiliriz.

12. Online hizmet içi seminerler zaman ve mekan sorununu ortadan kaldıracaktır. Herkes evinde katılabilecekler.

13. Hizmet içi eğitimlere katılamıyoruz, çünkü çoğu başka şehirlerde düzenleniyor. Bu sayede biz de katılabiliriz…

14. Yazılı materyaller daha etkili olduğu için onları kullanmayı tercih ediyorum.

15. Onlar görsel ve interaktif oldukları için daha kolay olacak. Ayrıca, zaman artık sorun değil.

16. Interaktivite bize anında geri dönüt, kolay dolaşım imknaı ve konuyu tekrarlama şansı sağlar.

17. Küçük bir bebeğim var, bu yüzden farklı şehirlerdeki programlara katılamıyorum. Ancak, eğer programlar portaldan verilirse, çocuk uyuduktan sonra katılabilirim. Zaman da sorun. Fakat, online sertifikasyon programları bu sorunu da ortadan kaldırabilirler. Ne zaman istersem devam edebilirim, geceleri bile.

18. Haklarımı öğrenirsem onları kolayca savunabilirim.

19. Takip edilecek çok fazla gereksiz bilgi var. Her gün yeni bir mevzuat çıkıyor. Bunları takip etmeye kalkarsak mesleğimizi yapamayız.

20. Zamandan tasarruf sağlamada yardımcı olacak ve bilgilerimize ulaşmada hızlı ve kolay bir yol. Çünkü bürokrasi zamanımızı alıyor.

21. 15 yıllık öğretmenim. Ancak, mesleki bilgilerimde hala stajyer görünüyorum. Bu tip hatalar sürekli oluyor. Bilgilerimi kontrol edebilirsem, hataları önleyebilirim.

22. Bütün okullar aynı imkanlara sahip değiller. Okullara arasında başarı oranını etkileyebilecek birçok farklılıklar var. Dolayısıyla farklı okulları karşılaştırmak anlamsız.

23. Belgelendirme konusunda bize yardımcı oluyor. Elimizde belge olduğu için öğrenciler aksini iddia edemiyorlar.

24. Bütün öğrencilere tek tek ulaşmak zorunda kalmayacağım. Bir e-posta göndereceğim, hepsi birden alacak.

25. Eğer velilere e-posta gönderebilirsem toplantılara katılabilir ve çocuğunun notlarını öğrenebilirler.

26. İletişim gerçekten çok kolay olacak. Okulda olmasak bile toplantı, tören vb. tarih ve saatlerinden haberdar olabileceğiz.

27. Bütün duyuruları okumaktan kurtulurum. E-posta ile takip edebilirim.

28. Birçok aktiviteyi kaçırdım özellikle de hizmet içi programları ve tayin duyurularını. Çünkü duyurular okula geç geliyor. Aktivitelerden ya son gününde ya da günü geçtikten sonra haberimiz oluyor. Eğer duyurular e-posta ile ilan edilirse biz de onları kaçırmamış oluruz.

29. Yıllık ve günlük planları kendi kendime hazırlamaya uğraşmayacağım.

30. Bence bu gerekli, kendimize tekrarlamaya başladık. Alanımızdaki yenilikleri takip etmemiz gerekli.

31. Müfredat aynı olsa bile her öğretmenin uyguladığı etkinlikler, kaynaklar farklı olabiliyor. Standart konular için standart etkinlikler belirlenebilir.

32. Derslerimize teknolojiyi adapte edebiliriz. Bu sitedeki bazı uygulamaları kullanabilir, bilgisayar aracılığıyla çocuklara sunabiliriz.

33. Bu siteyi kullanarak isteklerimizi MEB'e iletebiliriz. Anketler yardımıyla ihtiyaç analizi yapabilirler.

34. Yenilikleri takip etmek öğretmenleri klişeleşmekten kurtarır. Kendimizi geliştirebiliriz.