SECONDARY SCHOOL ENGLISH TEACHERS' TECHNOLOGY PERCEPTIONS AND ISSUES RELATED WITH THEIR TECHNOLOGY INTEGRATION PROCESSES: A QUALITATIVE STUDY

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ABSTRACT

SECONDARY SCHOOL ENGLISH TEACHERS' TECHNOLOGY PERCEPTIONS AND ISSUES RELATED WITH THEIR TECHNOLOGY INTEGRATION PROCESSES: A QUALITATIVE STUDY

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The main aim of this study was to investigate the secondary schools English teachers' perceptions of technology, technology integration processes into their lessons, and the ways they use technology for professional development. The secondary aim of the study was to propose technology integration guidelines to enable high school English teachers to integrate technology into their teaching.

Qualitative research design was used in this study and it resembles multi-case studies. For the participants' selection, criterion and convenience sampling strategy was used. First, 17 high schools (4 private, 3 Anatolian, 6 regular, and 4 vocational) were determined in Ankara province, and then 17 English teachers, one from each school, were selected based on the predetermined criteria. Totally, 17

teachers and 17 administrators were included in the study. Observations, document analysis, and interviews were used to collect the data.

The data were analyzed through content analysis. The data were categorized under emerged themes, general technology knowledge, planning, using, evaluation and assessment, personal purposes, attitudes, support, and wishes.

The findings of the study indicated that private high school teachers perceived themselves more knowledgeable in technology knowledge than regular, Anatolian, and vocational high school teachers. In addition, the interview results showed that private high school teachers integrate technology into planning, instruction, evaluation and assessment, and professional development more than the other English teachers. When school resources and support mechanisms were compared, private high schools were in a better condition than public high schools. Finally, most of the administrators included in the study wanted teachers use available school resources in their lessons.

Key Words: High School English Teachers, Technology Knowledge and Abilities, Support, Schools Resources, Administrators' approach to technology.

ÖZ

ORTAÖĞRETİM İNGİLİZCE ÖĞRETMENLERİNİN TEKNOLOJİ ALGILARI VE TEKNOLOJİYİ BÜTÜNLEŞTİRME SÜREÇLERİ İLE İLGİLİ KONULAR: NİTEL BİR ÇALIŞMA

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Bu tezin temel amacı ortaöğretim İngilizce öğretmenlerinin öğretim teknolojileri algılarını, teknolojiyi derslerinde uygulama süreçlerini ve teknolojiyi mesleki gelişimlerinde nasıl kullandıklarını araştırmaktır. Tezin ikincil amacı ortaöğretim İngilizce öğretmenlerinin teknolojiyi dersleri ile bütünleştirmelerini sağlamaya yönelik teknoloji bütünleştirme klavuzu önermektir.

Çalışmada nitel araştırma yöntemi ve çoklu durum deseni kullanılmıştır. Çalışmanın örneklemini seçerken ölçütleri sağlayan ve ulaşılabilen katılımcıları seçme yöntemi kullanılmıştır. Önce, Ankara ilinden 17 lise (4 Özel, 3 Anadolu, 6 Normal ve 4 Meslek lisesi) belirlenmiş ve sonra önceden belirlenmiş ölçütlere göre her okuldan bir öğretmen seçilmiştir. Araştırma 17 öğretmeni ve 17 yöneticiyi kapsamaktadır. Veriler görüşme, doküman çözümlemesi ve gözlem yöntemleri kullanılarak toplanmıştır.

Toplanan veriler içerik çözümlemesi yöntemiyle incelenmiştir. İçerik çözümlemesi sonucunda ortaya çıkan temalar genel bilgiler, planlama, kullanım, ölçme ve değerlendirme, kişisel kullanım, tutum, destek ve dileklerdir.

Çalışmanın bulguları teknoloji ile ilgili olarak özel lise öğretmenlerinin kendilerini normal, Anadolu ve meslek lisesi öğretmenlerinden daha bilgili bulduklarını ortaya çıkarmıştır. Bununla birlikte görüşme sonuçları özel lise öğretmenlerinin teknolojiyi planlama sürecinde, öğretimlerinde, ölçme ve değerlendirmede, kişisel ve mesleki gelişimlerinde diğer okul öğretmenlerinden daha çok bütünleştirdiklerini göstermiştir. Okul kaynakları ve destek hizmetleri karşılaştırıldığında ise özel ortaöğretim kurumlarının daha iyi bir durumda olduğu ortaya çıkmıştır. Son olarak, çalışmaya katılan okul yöneticilerinin çoğunluğu okulun teknolojik olanaklarının öğretmenler tarafından derslerinde kullanılmasını istemektedirler.

Anahtar Kelimeler: Orta Öğretim İngilizce Öğretmenleri, Teknoloji Bilgi ve Becerileri, Destek, Okul Kaynakları, Yöneticilerin Görüşleri.

To my family

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CHAPTER 1

INTRODUCTION

1.1. Background of the Study

The computer and communication technologies are affecting all kinds of people's life in various ways. As Khine (2001) pointed out the fast and continuous developments in the areas of computer and communication technology in last two decades fuel further development and changing the nature and practices in any kind of education. In this context, there is a trend in Turkish educational system to integrate technology into all levels of education. Many things have been done to increase teachers' technology knowledge level. In 1990, The Ministry of National Education (MoNE) in Turkey decided to include computer related courses in the curriculum of teacher training institutions. The MoNE began to provide these trainings to two different teacher groups: one, the teacher trainer responsible for the training of other teachers in computer literacy; and two, the applicator trainer responsible for implementing the computer-aided teaching applications (Imer, 2000). With the passing of the Basic Education Law in 1997, computer related courses in teacher training institutions were introduced as well.

There have been also trends in faculties of education to integrate technology in teacher education departments. In these faculties many actions/activities planned to increase student teachers' technology knowledge level. As Yildirim (2000) stated, in most teacher education institutions computer specific courses are offered as an initial attempt to prepare a student teacher for computer technology. Inline

with the restructuring efforts of teacher preparation programs in Turkey, Turkish Higher Education Council developed two consecutive technology courses ("Computer Applications in Education" and "Instructional Technology and Material Development") (HEC, 1998), which are compulsory for the students enrolled in any teacher training program in the entire faculties of education in Turkey.

The Turkish Ministry of National Education (MoNE) and the Turkish Higher Education Council (HEC) made also drastic changes in the nation's English language policy in their effort to reform Turkey's English language teaching practice in 1997. They developed a plan which aimed to promote the teaching of English in Turkish educational institutions. English started to be taught to students in grade four and became a compulsory course for all compulsory education. The basic aim of the change was to enable students to use language for communication in classroom activities. The curriculum promoted student-centered learning rather than the traditional teacher-centered view to learning. The role of the teacher was defined as facilitating the learning process. Teachers' responsibilities were expanded, including helping students to develop communicative performance, and promoting positive values and attitudes towards English language learning. Meanwhile, expectations from students changed to play an active role in their learning process. In addition, after the reform, English language teacher education departments were redesigned; the number of methodology courses and the teaching practice time in schools was increased (Kirkgoz, 2007). The mentioned / redesigned English curriculum might be implemented effectively if the necessary technological infrastructure is provided and if technology is integrated into teaching and learning process as Ozdemir and Kilic (2006) pointed out. Recently, primary schools' English curriculum was updated. This new curriculum provides more comprehensive guidelines to teachers on using how much English and the mother tongue; illustrating detailed step-by-step lessons; facilitating learners' acquisition through the use of games, stories, songs, dramatization and model materials; and testing based on the communicative view to English teaching (Kirkgoz, 2007). In addition, the duration of all high schools was increased from three to four years in 2005 (MoNE, 2005a). The secondary schools' English Curriculum was updated in

2006 as well. The new curriculum aims to have students who could solve problems when they encountered, think creatively, have necessary language abilities to be able met their language needs, and have learned learning (Sahinel et al., 2006).

To use related technology effectively, teachers must understand how its use fits into the larger curricular and instructional framework (Graham et al., 2004). All of aforementioned institutions' endeavor is to make teachers plan and design learning environments and experiences with the integration of technology. Scheffler and Logan (1999) stated that the most important computer competencies are "dealt with integration of computers into curricula and using computers in instruction" (p.305). Considering the importance of using technology in teaching/learning process in English lessons, the aim of this study is to analyze the English teachers' knowledge about instructional technology, implementation of instructional technology in their classrooms, the issues related with the implementation of these technologies, the ways to develop professionally by using these technologies, and provide technology integration guidelines to enable high school English teachers to use technology in their teaching.

1.2. Purpose of the Study

The purpose of this study is fourfold; (1) to reveal the instructional technology knowledge of high school English teachers; (2) to investigate how high school English teachers use instructional technology in their courses; (3) to investigate how high school English teachers use technologies to develop professionally; and (4) to develop technology integration guidelines to enable high school English teachers to use instructional technology in their courses.

1.3. Research Questions

The following research questions guide this research:

(1) What are high school English teachers' perceived competency levels in instructional technology and how did they learn to use these technologies?

(2) How do they plan to use or integrate instructional technologies in their courses?

(3) For what purposes and how do they use instructional technologies in their courses?

(4) In assessment and evaluation, how and for what purposes do they use instructional technologies in their courses?

(5) How do they use technology to develop professionally?

(6) What do they consider about social, ethical, legal, and human issues while using instructional technologies?

(7) To what extent do teachers have technological and administrative support?

(8) What could be done to enable high school English teachers as technology users in their teaching?

1.4. Significance of the Study

There is a trend in faculties of education in Turkey to integrate technology in their teacher education departments. For that purpose many things have been done to increase student teachers' technology knowledge level.

Regardless of the configuration of the program, all teachers must have opportunities for experiences that prepare them to use technologies in their instructions (Zhao et al., 2002; Hughes, 2004). There are many research studies related with the teachers usage of technology in education in Turkey. For example, Top (2003) conducted a study in the Department of FLE in Faculty of Education in METU in Turkey. In the study students' perceptions of their competencies with regard to one of the Technology Standards were analyzed by a survey. According to his study, preservice teachers' perceptions of their competencies with regard to technology standard were found quite high. Another example is that, Toker (2004)

conducted a study in the Department of Primary School Teacher Education in Burdur in School of Education in Turkey. This study also indicated that, most of the pre-service teachers see themselves as intermediate technology users. On the other hand, Akkoyunlu and Kurbanoglu (2004) carried out a study to investigate teachers' information literacy self-efficacy. They found that teachers' information literacy self-efficacy level is generally low.

In another study, Usluel and Haslaman (2003) investigated teachers' present and preferred situations of computer usage. They revealed that teachers' present situation scores were lower than preferred situation scores related to computer technologies usage, impact on student and purpose of usage. Askar and Usluel (2003) examined the rate of adoption of computers in schools. Their study showed that teachers favored to use computers for administrative purposes rather than educational purposes. In another study, Askar and Usluel (2002) found similar results on teachers' perceptions related to attributes of computers on schools. They revealed that, teachers found computers as advantageous, compatible, triable and observable in management and personal issues. On the other hand, teachers have doubt in using computers as an instructional tool. Similarly, Cagiltay et al. (2001) conducted a study on teachers' perspectives about the use of computers in education. They find out that teachers have positive beliefs on the usage of computers in classes and many of the teachers desire to learn things related to the usage of computers in classes. Akkoyunlu (2002) conducted a study with a specific technology Internet; to investigate teachers' Internet usage and their opinions on the issue. She found that mainly young teachers are using Internet and it is generally used for the communication processes (like e-mail, chat, etc…).

As Swenson et al. (2005) stated "it is essential for English educators to turn a critical eye toward the benefits and affordances; the limitations and liabilities of integrating these newer technologies into our teaching" (p.211). In Turkey, no research study which is conducted especially to investigate in-service English teachers', who graduated from the faculty of education and took the compulsory technology courses in their teacher education period, instructional technology usage

in their teaching and professional environment was found in the literature. In addition, no study which focuses on the observation and analysis of these teachers and administrators could be found in the literature. It can be said that there is a need to reveal these teachers technology usage in their teaching environment. As Top (2003) stated in his study, a further research can be conducted with the teachers at schools to see whether they make use of technology in their classroom applications and professional life. This study aims to investigate English teachers' technology usage in their classroom teaching. The study also includes four types of high schools (private, Anatolian, regular, and vocational) to investigate current technology integration levels of different high school settings. In addition, this study aims to show teachers' technology knowledge, how they learn things related to technologies, how and for what purposes they are planning to use technology, what kind of strategies they are using while using technologies, teachers' thoughts while using technologies in their teaching environment, teachers' expectations from their students in technology rich environments, teachers' reasons about not using technologies in their teaching environments, teachers' beliefs about using technology in teaching environments, teachers knowledge on using technology for evaluation and assessment issues, teachers' technology usage for their personnel/professional developments, the technology support they have in their schools, and their knowledge on social, ethical, legal and human issues. Furthermore, this study aims to show school administrators' point of view on technology usage, deficiencies of schools, technology usage procedures, and benefits of using technologies in educational settings. Moreover, this study makes contributions to the related literature in Turkey with these findings. In addition, this study may provide information to the stakeholders of Turkish teacher education institutions while they are trying to improve teacher education programs. Likewise, this study might give directions to the development of the teacher education programs. The study may help education faculty's administration while planning the future of faculty. At last, at the end of the study, after the analysis of the collected data, technology integration guidelines were developed to enable high school

English teachers to use educational technologies effectively in their teaching environment by combining findings of this study and related literature.

1.5. Definitions of Terms

Instructional Technology (IT): Instructional technology is a sub-set of educational technology, based on the concept that instruction is a sub-set of education. IT is a complex, integrated process involving people, procedures, ideas, devices and organization, for analyzing problems and devising, implementing, evaluating and managing solutions to those problems, in situation in which learning is purposive and controlled (AECT, 1977/1996). The term instructional technology is often used interchangeably with the term educational technology. On the other hand, the term instructional technology presents refinements that are not included in the meanings of educational technology (Gentry, 1991).

Educational technologies: "Educational technologies are not single technologies but complex combinations of hardware and software. These technologies may employ some combination of audio channels, computer code, data, graphics, video, or text. Although technology applications are frequently characterized in terms of their most obvious hardware feature (e.g., a VCR or a computer), from the standpoint of education, it is the nature of the instruction delivered that is important rather than the equipment delivering it" (Means et al., 1993, p.11). "Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources" (AECT, 2004, p.2).

Technology: Technology stands for various media, such as computers and video and the associated hardware, networks, and software that enable them to function. Technology can be employed in many different ways, including support for administrative practices, for personal productivity and to assist teaching and learning (Mehlinger & Powers, 2002).

CHAPTER 2

LITERATURE REVIEW

This section of the study includes theoretical perspectives of the study and relevant research studies from the literature that the researcher used through the research. First of all, the researcher reviewed technology integration process in teacher education periods. Then, technology integration process in teacher education institutions and other included parties in Turkey were presented. After that, the roles of technology in education, technology integration strategies for foreign language instruction, and benefits of technologies in classroom were presented separately. Afterwards, technology adoption process and teachers' level in regard to their technology abilities were presented. Later, necessary conditions and barriers to technology integration were elaborated.

2.1. Technology in Teacher Education

Several reformers feel that teacher training is a key concept in promoting students' successful manipulation of multiple technologies in their studies (Harrington, 1991; Soloman, 1992; Soetaert & Bonamie, 1999). For instance, Ringstaff and Kelley (2002) stated that "it is not surprising that researchers investigating the impact of technology on education report that insufficient teacher training is a significant barrier to successful integration" (p.14). They also believe that teachers "who receive formal training use technology more frequently for instruction" (p.19). Indeed, teacher education institutions have responded in a variety of ways to the need to integrate technology throughout their teacher preparation programs (Office of Technology Assessment, 1995; Soloman, 1992; Hughes, 2004; CEO, 1999). In Turkey, Education Faculties, Ministry of National

Education (MoNE), and Higher Education Council (HEC) have attempted in that direction since early 1980s.

As a result of these efforts, graduate and undergraduate students have been made aware of a range of educational applications of information technology (Algozzine et al., 1999). On the contrary, Office of Technology Assessment (1995) report has indicated that new teachers have limited knowledge of how to work in a technology-enriched classroom or how to use technology in their professional practice. Indeed, although there is an increasing volume of computer hardware and software in schools, few teachers routinely use computers in their lessons for instructional purposes (Zhao et al., 2002; Kleiman, 2004; Maddux & Johnson, 2005). In other words, as Britten and Cassady (2005) noted access to technology does not translate into the use of that technology by classroom teachers. Moreover, it is necessary that educators be equipped to use technology not just as a personal tool but as a standard tool of teaching (Friske et al., 1996; Zhao et al., 2002). The education faculties are generally lack of skills and experiences necessary to turn technology into an effective teaching tool for themselves and their students. In fact, faculty members often do not constitute models for the use of information technology in their teaching (CEO, 1999; Ertmer & Hruskocy, 1999; Roberts, Lemke & Myers, 1999; Graham et al., 2004). As Hargrave and Hsus (2000) pointed out, they mainly focused on "integrating instructional technologies into the curriculum than on using technologies for teacher productivity or personal use" (p.303).

Knowing about technology is not enough to be able to use them effectively in the classrooms (Britten & Cassady, 2005; Dutt-Doner, Allen, & Corcoran, 2005; Maddux & Johnson, 2005). Teachers are not given adequate training and support for integrating technology into their day-to-day classroom instruction (Kleiman, 2004). Similarly, Becker et al. (1999) stated that it is certainly true that what makes a good computer-using teacher is more than any one thing: technical knowledge about computers helps, so does experience in using computers professionally, and it also seems reasonable to expect that an exemplary teacher has the kinds of objectives for

student computer use and employs the types of software that most likely result in student engagement and thoughtful effort, outside of class time as well as during class. When teachers were trained in the use of technology, greatest gains in student achievement could be obtained (Schacter, 1999). As Hughes (2004) emphasized teachers, even with years of experience in teaching their subject area, also need the subject matter and pedagogical content connections, since the immediate and easy implementation of the technology is likely to be pedagogical. On the other hand, for instance Ozdemir and Kilic (2006) investigated the integration of ICT in the Turkish primary school system and found that there was little or no training in developing ICT knowledge and skills, the potential educational applications in general. They also commented that if every school were systemically provided with in-service training and made responsible for integrating technology into the new approaches to teaching and learning, the project would progress much further.

Teachers should plan and design learning environments and experiences with the integration of technology. Likewise, Scheffler & Logan (1999) stated the most important computer competencies dealt with integration of computers into curricula and using computers in instruction. Moreover, "[a]dvanced information technology competencies enable teachers and other education professionals to use multiple forms of technology to enhance learning in their classrooms" (Algozzine et al., 1999, para.9). However, according to Dutt-Doner, Allen, and Corcoran (2005) many teacher candidates are not effectively prepared to do the necessary task for technology-enriched classroom practice.

Teachers should use technology to enhance their productivity and professional practice. Similarly, Jao (2001) stated that, a teacher needs to be able to collaborate in online workgroups to build bodies of knowledge around specific topics. While doing this, the instructor must be prepared for added emphasis on the concept of student and teacher learning together. Students frequently suggest technology options, modifications, or shortcuts, and there is typically at least one student in the class who is more skilled and confident with technology than the instructor (Merkley, Schmidt, & Allen, 2001).

Teachers should be aware of the social, ethical, legal, and human issues surrounding the use of technology in K-12 schools and apply those principles in practice. Likewise, Merkley, Schmidt, and Allen (2001) stated "[t]he instructor must be very sensitive to the concept of accommodating for individual differences and must continually monitor instructional pace, explanation, and feedback when implementing and requiring technology use" (p.228). Equitable access needs to be considered when technology use is embedded in an assignment.

Preparing effective and confident future teachers is the responsibility of education faculties. Today's teacher preparation programs provide a variety of alternative paths to initial licensure. They address economic conditions, needs of prospective teachers, and the demands of employing school districts. Regardless of the configuration of the program, all teachers must have opportunities for experiences that prepare them to meet technology standards. "The existence of many types of programs virtually ensures that there will not be one single method for providing learning experiences to meet these standards" (ISTE, n.d, para. I). International Society for Technology in Education (ISTE) has prepared a standard for all kinds of teachers called National Educational Technology Standards for Teachers (NETS-T, 2003). The last version of NETS-T was released in March 2003. There are also many regional technology standards for teachers, like, Community High Schools, Illinois (2005), Professional Teaching Standards, North Carolina (2005), Minimum Standards for Teachers - Learning Technology, Queensland - Austria (2005), and State Board for Education Certification, Texas (2005).

There are research studies related with the preservice and inservice teachers' usage of technology in education in Turkey. For example, Top (2003) made a study in the Department of FLE in Faculty of Education in METU in Turkey. In the study students' perceptions of their competencies with regard to the NETS-T were analyzed by a survey. According to this study, preservice teachers' perceptions of their competencies with regard to technology standard were found quite high. Ortakoyluoglu (2004) made a study to specify to what degree the senior students of the Department of English Language Teaching (ELT) at Abant İzzet Baysal

University “feel knowledgeable and competent in meeting the international standards that an English Language teacher should have” (p.iv). She noted that “the number of courses on “language proficiency and cultures” is considered to be inadequate” (p.122). In addition, according to university instructors, students were learning how to prepare technology-based English teaching materials, particularly, preparing worksheets, transparencies, and computer-based materials. In another study conducted at Abant İzzet Baysal University by Altun (2003) a significant difference was found between those who have taken a computer course earlier and those who have not. Similarly, preservice teachers were good at developing games, songs, visual materials according to him. Yasar (2005) also conducted a study to investigate university preparatory class ELT students’ attitudes towards the assessment system by which they are evaluated at METU, in Ankara, in Turkey. He also found that anybody who did not know any or some of the computer applications before starting to keep the electronic portfolio learned how to use them while keeping it.

Although many efforts are being made all over the world, as Willis and Mehlinger (1996) expressed that “most preservice teachers know very little about effective use of technology in education … the virtual universal conclusion is that teacher education, particularly preservice, is not preparing educators to work in a technology-enriched classroom” (p.978).

2.2. Technology Integration Process in Turkey

To examine the technology integration studies done in Turkey, which organizations and institutions are responsible for those studies and how those institutions are organized should be clarified. Many institutions (universities, scientific research organizations, Ministry of National Education (MoNE), Higher Education Council (HEC), and some various private organizations) are concerned with education in Turkey. On the other hand, for instance, Cakiroglu and Cakiroglu (2003) pointed out that “[t]here is a lack of collaboration and mutual communication between the teacher educators in universities and the teachers in the schools of the Ministry of National Education” (p.260).It is a well-known fact that

educational technology should be considered and developed continuously in our educational system. In this system, providing tools to public educational institutions is the responsibility of the MoNE.

Until the "Educational Tools and Technical Collaboration General Directorate" was established in 1962, the tools used in instructional settings were bought from other countries. After the establishment of the general directorate, Film Radio and Television Education Center and Course Tools Construction and Reparation Center units have been founded. The amount of media and materials such as films, photos, videocassettes, and instructional software were not adequate and radio and television did not have adequate features to support education. On the other hand, computer aided instruction; e-learning laboratories and programmed instruction are fairly new concepts for Turkey.

In 1984, MoNE started a project by establishing a committee related to computer education in order to keep up with the latest trends. The aim of the committee was to determine the fundamental principles for computer education and to determine the related hardware. This committee prepared a report, about integrating computers in secondary education, involved proposals for the transition program, selection of applicant schools, determining criterion on teacher education, training teachers, preparation of teaching tools, and selection of suitable computer hardware. In line with the report, MoNE supplied 100 schools from 67 cities with hardware and provided training courses for teachers about computer literacy and basic programming language during the same year. Until 1987, MoNE continued to buy computers, to train teachers, and to develop software. In 1987 context of teacher training was expanded and computer-aided instruction was included for the first time in teacher training programs. According to studies conducted between 1984 and 1989, MoNE gave priority to software development and teacher education. For this purpose, MoNE invited different firms to help computer-aided instructions at schools and companies supported the development of software processing and teacher training in schools. Later, MoNE discovered inadequacy of private firms in teacher training, so started to work with universities together with

the firms. In 1990, the Ministry decided to include computer related courses in the curriculum of teacher training institutions. The MoNE began to provide these trainings in two different teacher groups: one, the teacher trainer responsible for the training of other teachers in computer literacy; and two, the applicator trainer responsible for implementing the computer-aided teaching applications (Imer, 2000). For these purposes, since 1991, MoNE has been working in cooperation with three universities and Tubitak (The Scientific and Technological Research Council of Turkey) to integrate educational technology into instruction. Tübitak first prepared a "Turkey CD" and "CD of Kurtuluş Savaşı" for schools. After these,"CD of Piri Reis" for history education and the "CD of Turkish Grammar" for grammar education were developed (Imer, 2000).

With the pass of the Basic Education Law in 1997, computer related courses in teacher training institutions were implemented and the compulsory education in Turkey was extended to eight years. The shortage of teachers in schools made the establishment of the National Education Development Project necessary which aided the redesign of the curricula of teacher training institutions and provided all basic education schools with at least one instructional technology room. Another dimension of this project was to improve the quality of the teacher training system. Each and every department in the faculties of education in Turkey began to offer two technology training courses, “Computer Applications in Education' and 'Instructional Technologies and Material Preparation” (HEC, 1998). This was inline the CEO (1999) forum report;

> More than 70 percent of teacher preparation programs require three or more credit hours of instruction in courses focused on technology. About fifty percent of that instruction is part of other classes such as methods and curriculum courses. Importantly, these integrated instructional hours more positively correlate with technology skills and the ability to integrate information technology than do stand-alone information technology courses (p.9).

Finally, in 2006 HEC designed a study group (constituting 25 academicians) to overcome the problems of the restructure in 1997. According to this group reports, HEC (2006) promulgated changes in teacher education programs.

In 1998, under the supervision of MoNE, General Directorate of Educational Technologies (EgiTek) was founded to carry out the necessary issues in developing and producing any kind of audio materials, visual materials, and computer based and digitized materials to be able to use in educational settings (Egitek, n.d.). The main functions of EgiTek are;

- to support, to make it common and to increase the quality of education and teaching with technological developments,
- Research, planning, practice and evaluation studies in need of functional connection between distance education and normal education,
- Central government entrance exams, and
- To carry out the information technology duties of MoNE.

As explained before, many things have been tried to be achieved from the beginning to the present. In addition, for instance, to solve inadequacy of technologies in classrooms MoNE completed opening "information technology (IT) classrooms in 2802 elementary schools (K-8), which included computers, printers, scanners, TVs, videos, CDs' and slides to be used for each separate course" (Akbaba-Altun, 2004, p.255) by using World Bank loan in 2000. But there are some goals which still need to be achieved and stated by many researchers. For example, Keskinkilic (2003) proposed that MoNE should do the following studies.

1. Provide appropriate connection to Internet and multi media resources in all schools,
2. Provide e-education platforms and resources about education via internet for teachers, students, and parents,
3. To train all the teachers, especially to adopt their curriculum and encourage them to use new technologies in order to make them improve innovated and practical teaching strategies ,
4. To renew curriculum by including new teaching strategies based on ICT, and
5. To provide students a chance to be technology literate after leaving

school.

Like individual researchers, MoNE is also aware of the gaps of the technology integration. Indeed, MoNE (2005) planned to adapt the following ICT integration steps into Turkish education system.

- ICT hardware and software will be supplied to all of the schools.
- Safe and fast internet connection will be supplied to all of the schools.
- Every student, teacher, administrator, parent, and staff will reach ICT in their schools.
- Inservice training will be supplied for teachers, students, administrators and staff to make them use ICT
- Curriculum will be student centered and students will reach information by themselves by using ICT
- School administrative process will be improved by using ICT tools.
- Educational settings will be provided to develop good qualified technology literate content. Technology literacy will be improved for students to learn by themselves.
- Digital divide (inequality of reaching technology) will be prevented. The access of each citizen to information technologies in schools will be ensured.

On the other hand, for example U.S.A had planned to connect each classroom to the Internet by the year 2000 (Roberts, Lemke & Myers, 1999). The National Center for Education Statistics (2005) reported that in fall 2003, "nearly 100 percent of public schools in the United States had access to the Internet" (p.4), 93 percent of public school instructional rooms had Internet access, and the proportion of instructional rooms with Internet access ranged from 90 to 97 percent. In 2003 in Canada, nearly all the schools had Internet connection with an average student computer ratio of 5:1 and an average of 72 computers per school (Plante & Beattie, 2004).

While defining future strategies of MoNE, it is stated that there should be an effective use of new technologies and information technologies in education. Thus, the integration studies of ICT into public education should be maintained (MoNE, 2005). MoNE (2005) also proposed some necessary improvements regarding technology integration in school settings such as, the usage of ICT in education should be expanded. Turkey has made important improvements in spreading Internet access and computer usage. Besides improving the existing infrastructure, necessary precautions to lower the cost of Internet access of the students in their houses need to be taken. Turkey is a candidate of European Union since December 1999. Turkey's endeavors to integrate technology in educational institutions is parallel with European Union's 13 defined common goals for educational settings and three of them are directly related with the technology integration. These are; (1) keeping up with the desirable conditions necessary for the education of teachers, (2) improving the basic skills necessary for information society, and (3) to ensure the access of each citizen to information technologies (MoNE, 2005). Similarly, in 2006 HEC presented a report about the updates in the teacher education programs and pointed out that one of the important aspects of the new program was that it's closely resemblances of the teacher education programs which are used in teacher training in EU countries.

Technology literacy and ability to use technology in the teaching environment are accepted as a natural property of a standard teacher in Turkey. In MoNE (2006) report general qualifications of teaching profession defined and it was stated that these qualifications cover necessary knowledge, ability, and behaviors to be able to act effectively and fruitfully as a teacher. In this qualification report, there are many sub-topics and each sub-topic has various indicators which are accepted as behaviors for proving whether teachers have necessary qualifications or not. Although there are many indicators indirectly connected with the usage of technologies in this report, here are the directly connected indicators for using technology in educational settings. These indicators are;

- Prepare appropriate learning settings for the students who have different experiences, qualities, and capacities by using ICT,

- Be aware of legal and ethical responsibilities about ICT and inform their students,
- Have the literacy of technology and have the knowledge and ability about the concepts and practice of technology,
- Follow the progresses in ICT,
- Make use of ICT for professional progress and increase productivity,
- Make use of ICT for sharing information,
- Use computers and other technologies in preparing educational material,
- Reach information resources about teaching and learning and evaluate them according to their accuracy and suitability,
- Give instruction and be a model for effective usage of technology,
- Take the health and security precautions in their teaching environment where they use technologies, and
- Analyze the data by using ICT

Knowing the problems in technology integration (some of them mentioned before), some actions may be needed to be taken to eliminate them and to have teachers possess the indicators stated by MoNE (2006). For example, the CEO (1999) forum recommended actions to prepare new and veteran teachers to use technology more effectively. The MoNE technology integration endeavors are parallel to these recommendations;

- Schools of education should prepare new teachers to integrate technology effectively into the curriculum,
- Current teachers and administrators should be proficient in integrating technology into the curriculum,
- Education policymakers and school administrators should create systems that reward the integration of technology into the curriculum, and
- Corporations and local businesses should collaborate with the education

community to help ensure that today's students will graduate with 21st century workplace skills.

In sum, as Baran (2007) pointed out "history of teacher education in Turkey and new changes in educational system showed that teacher education needed to more technology based solution" (p.26).

2.3. The Roles of Technology in Education

Technology can be used in various settings, for various purposes, for various ways, and for various times. Young and Bush (2004) developed a starting point for teachers to consider how technology should be used and should not be used in teaching.

Technology should;

- Work to validate individual students and empower their ability to achieve academic and "real world" success.
- Supplement and enhance instruction and, in effect, work almost transparently and seamlessly with content instruction.
- Supplement and enhance traditional print/literature/media materials.
- Provide additional resources and create wider access to them.
- Expand students' means of expression and broaden their opportunities to reach meaningful and authentic audiences.
- Deepen students' understanding of complex issues and enhance their ability to make more global connections.
- Expand and enhance the definitions and dimensions of literacy (critical, digital, media and otherwise).
- Facilitate an open forum for discussion that allows for more opportunities for free and democratic participation and dialogue (p.12).

Technology should not;

- Replace complex language and developmental goals with more simplistic "learn technology" goals.
- Replace teachers or pedagogy.
- Complicate or supersede content instruction or become the content focus of instruction itself.
- Replace or overshadow traditional print/ literature/media materials.
- Limit appropriate resources or access to them.
- Disrupt or complicate normal classroom community efforts and objectives for addressing audience.
- Diminish students' ability to participate or contribute by favoring students with advantaged access to technology.
- Deepen social, racial, gender, and economic inequalities.
- Stifle creativity or opportunities for using the imagination or multiple intelligences.
- Completely replace teacher-student and/or student-student "face-to-face" communication and interaction (p.12).

While using technology in teaching environment what should be done and what should not be done could be evaluated by looking at Young and Bush's (2004) recommendations. Indeed, technology's role in education can take many forms. It can be classified as a tool, a tutor, a learner (tutee), (Taylor, 1980; Heid & Baylor, 1993), and as a catalyst (Heid & Baylor, 1993).

Technology as a Tool

Technology as a tool needs some useful capability programmed into it to allow users opportunities to process or reorganize information more quickly and efficiently. As a tool they have immediate and practical utility, for that reason they have been developed for business, science, industry, government, and other application areas, such as higher education (Taylor, 1980). In this mode, computer

provides a service that the consumers need and more or less they know how to use. For example, the main use of computers in education as tool is the word-processing and desktop publishing. Writing a term paper or a thesis requires a word-processing program and some expertise on it. In addition, many language teachers and students make use of computers as tool while preparing their presentations, writing their papers, or worksheet for their classes.

Technology as a Tutor

Computers may have a similar role as tutor comparing to a teacher has. The computer presents lectures, student responds, computer evaluates student's responses, from the results of the evaluation, determines what to present to student next. With well-developed software, the computer tutor may tailor its presentation to accommodate a wide range of student differences (Taylor, 1980). Well developed software may require too much time as Taylor (1980) stated, "tutor mode typically requires many hours of expert work to produce one hour of good tutoring, for any or all of several reasons" (p.243). Computers as tutor provide the learners with different activities which are appropriate to the subject aimed by the learners: drill and practice, tutorials, simulations, and games. This mode generally called as CAI (Computer-Assisted Instruction).

Technology as a Tutee (Learner)

In this role, computers are learners themselves. Computers are taught to perform their tasks that the user wants. Computers understand special languages which are called machine languages (such as Pascal, C and Delphi) and programmers write special codes for the computers to understand. These codes are turned into programs which we use today (such as Microsoft Word and PowerPoint). With these codes, computers can understand when, what and how to do the thing instructed.

Technology as a Catalyst

Finally, technology can be used for exploring the knowledge on interested subject. It is a catalyst for the extension of learning beyond the direct instruction given by the teacher. If guided properly, the technology can engage students' thought processes that may not have been triggered through a traditional means (Heid & Baylor, 1993), and allows students to feel an ownership of their discoveries once they have arrived.

2.4. Teaching English in Turkey

The history of English teaching in Turkey was divided to three phases by Kirkgoz (2007). She defined historical overview of the policies implemented up to the 1997 education reform as first phase, the 1997 education reform as second phase, and the government's most recent education reforms as third phases.

1950s were seen as the actual starting points of the spread of English in Turkey due to the increasing impact of American economic and military power (Dogancay-Aktuna, 1998). In 1955 the first Anatolian high school was opened and students graduating from private and Anatolian high schools' were exposed to English for a longer period compared to other state schools (Kirkgoz, 2007). 1980s also places important role in the spread of English due to the forces of globalization through the English language (Dogancay-Aktuna, 1998; Kirkgoz, 2007). There was a fast increase in the number of English-medium high schools, it was 193 (103 private, 90 state-owned) in 1987 and 1065 (650 private, 415 state owned) in 2004 respectively (Kirkgoz, 2007). In addition, English-medium university education was started with the establishment of Middle East Technical University in 1956 and continues with the two state owned University and 25 five private universities. There are also some universities where language of instruction is Turkish but English is incorporated into the curriculum as a compulsory subject. The other languages were entirely removed from the curriculum in favor of English and English is become a compulsory course in Turkish education system (Kirkgoz, 2007). This may be due to its international role as the most important and functional

foreign language to aid technological and scientific development and modernization (Dogancay-Aktuna, 1998).

In 1997, MoNE and HEC established a plan 'The Ministry of Education Development Project' -a major curriculum innovation project in ELT- to promote the teaching of English in Turkish educational institutions. After this, English became a standardized compulsory school subject for all recipients of compulsory education and started to be taught to students in grades four and five (Kirkgoz, 2007). According to her, the 1997 curriculum stands as a landmark in Turkish history because, it introduced the concept of the communicative approach into ELT, promoted student-centered learning, specified teachers as facilitators of the learning process, changed teachers' responsibilities which included helping students to develop communicative performance and promoting positive values and attitudes towards English language learning, and changed students role which became to play an active role in the learning process. In addition, teacher education programs were redesigned; the number of methodology courses and teaching practice time in primary and secondary schools to provide student teachers with hands-on experience in schools were increased (Kirkgoz, 2007). However, Kirkgoz (2007a) conducted a study with 50 teachers in Adana in Turkey and revealed that the communicative language teaching proposed did not seem to have the expected impact on the classroom teaching because classroom activities were mainly based on traditional methods of teaching. Moreover, following the 1997 education reform, the MoNE collaborated with local and foreign associations in order to facilitate dissemination of curriculum innovation. For example, the In-service English Language Teacher Training and Development Unit (INSET) was established to organize seminars, and conduct in-service training workshops for primary and secondary English teachers to help facilitate the implementation process of the curriculum reform (Kirkgoz, 2007).

After 2005, the duration of all high schools was increased from the previous three to four years as a first change in the 1997 ELT policy. The second change in ELT policy was the change of primary level (Ersoz et al. 2006) and secondary level

(Sahinel et al., 2006) ELT curriculum by a team of Turkish experts to adapt it to EU standards. According to Kirkgoz (2007), "[i]n many aspects, the new curriculum is a much more comprehensive and elaborate version of the previous one" (224). The recent curriculums include detailed theoretical information on various aspects of the ELT including, distinction between language acquisition and language learning, selection of appropriate teaching materials for different grades, curriculum design issues, assessment of student through performance-based items, etc… (Ersoz et al. 2006; Sahinel et al., 2006; Kirkgoz, 2007). For example, there was detailed information about the teaching materials that could be used in English teaching. Teaching materials divided into three major categories in the new curriculum. These were visual materials (gestures, facial expressions, magnet boards /, flashcards, cartoons, line drawings, overhead projector and transparencies, the opaque projector, slides, filmstrips, TV programs, computer software/hardware, DVD and video cassettes, etc…), audio materials (teacher, audio cassettes, records/record players, CDs/ CD players, radio programs, multimedia lab, etc…), and printed materials (course book, teacher's book, workbook, etc…) (Ersoz, et al., 2006). And new curriculums was applied to be incremental in nationwide starting from grade four (MoNE, 2005a; Kirkgoz, 2007). As seen above the English teaching in Turkey has gone under many developments and still tried to be developed in many aspects.

2.5. Technology Integration Strategies for Foreign Language Instruction

In USA twelve national education associations' leaders established an alliance to explore the most effective means of accomplishing effectively preparing teachers to use technology (Bell, 2001). They defined technologies that could be used in English lessons:

- Internet publishing,
- Electronic journaling and discussion groups,
- E-mail,
- Web sites,

- Electronic portfolios,
- Internet research,
- Applications for communication to self and others,
- Videoconferencing for cultural communication exchanges,
- Text creation through word processing, graphics, and numerous other applications, and
- Word processing (p.524).

Ways of using technologies for English language teaching could be defined roughly as Bell (2001) indicated, similarly Pope and Golub (2000) defined seven principles as touchstones for infusing these technologies into English teacher preparation programs,

- introduce and infuse technology in context;
- focus on the importance of technology as a literacy tool;
- model English language arts learning and teaching while infusing technology;
- evaluate critically when and how to use technology in English language arts classroom;
- provide a wide range of opportunities to use technology;
- examine and determine ways of analyzing, evaluating, and grading English language arts technology projects; and
- emphasize issues of equity and diversity (p.90).

According to them (2000) after achieving these principles, teachers will no longer be the dispenser of information; teachers and students together will be learners. Similarly HEC (2006) desired to have teachers, who solve problems and teach how to learn instead of repeating the things told them in their teaching environment, by the new regulations on teacher education programs.

The technologies pointed out by Bell (2001) and principles stated by Pope and Golub (2000) might be combined in a variety of technology integration strategies for foreign language teaching in Turkey. For example, Roblyer (2006) summarized some strategies as follows;

- Support for authentic and written practice,
- Support for practice in language sub skills,
- Presentation aids,
- Support for text production,
- Virtual field trips for modified language immersion experience,
- Virtual collaborations,
- Productivity and lesson design support for teachers.

2.6. Benefits of Technology in Classrooms

Usage of technology in classroom brings many instructional benefits that may or may not be observed in measures of student learning such as motivating learners, bridging wider range of resources to the classroom, etc… The obtained benefits could show variations depends on the user of the technology, the place where the technology is used, the duration of the technology usage, the participants, the time of the technology usage, etc... But, Office of Technology Assessment (OTA, 1995) report generally lists the promises of the technology for teachers as follows:

1. *Bridging new sources to the classroom*: As technologies have become widely available, teachers have chance to access to a broader range of resources that they can use in their classrooms. For instance, telecommunications enable teachers to extend the learning environments for students.
2. *Developing new forms of instruction*: Teachers may utilize from the technology, to create new teaching tools. For instance, instead of written reports teachers may require usage of multimedia sources to create

reports which includes photographs, references from CD-ROM encyclopedia, etc…

3. *Motivating learners*: The nature of technology based resources suggests and discussions with teachers confirm that many technology based classroom activities can be motivating to students.
4. *Individualizing student learning*: This has been the greatest appeal of integration of technology to classroom setting. Integrated learning systems and software that corresponds to curricula may be presented to each student depending on students abilities.
5. *Assisting teachers with the daily tasks of teaching*: Technology offers alternative and time saving solutions to many tasks that require teachers' valuable time and energy such as keeping records, preparing curricular activities and reports, increasing communication with students.

Similarly, Roblyer (2006) provided a summary of reasons various practitioners cited over the years for why technology should be integrated into teaching. She collected those under four main categories;

1. Motivation:
   (1) Ways of gaining learner attention
   (2) Support for manual operations in high-level learning
   (3) Illustrations of real-world relevance
   (4) Engagement in production work
   (5) Connections with distance audiences
2. Enhanced Instructional Methods:
   (1) Interaction and immediate feedback
   (2) Visual demonstrations
   (3) Illustrative connections between skills and applications
   (4) Opportunities to study systems in unique ways

(5) Unique information sources and populations

(6) Self-paced learning

(7) Access to learning opportunities

(8) Cooperative learning

3. Increased Productivity:

(1) Saving time on production tasks

(2) Grading and tracking student work

(3) Faster access to information sources

(4) Saving money on consumable materials

4. Required Information Age Skills:

(1) Technology literacy

(2) Information literacy

(3) Visual literacy (p.18)

High schools English teachers might aim some of these benefits in their classrooms while integrating technologies into their teaching.

2.7. Adoption Process

Technology integration in schools could be accepted as an innovation. As Rogers (1995) expressed "the innovation-decision process is the process through which an individual (or other decision-making unit) passes from first knowledge of an innovation, to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision" (p. 201-202). Like his innovation's definition, technology integration has steps that should be passed successfully. In other words, technology integration is a long term process and it has steps from awareness to the full implementation into the educational process. Indeed, "change entails an unfolding of experience and a gradual development of skill and sophistication in use of an innovation" (Dooley,

1999, p.36). According to Rogers (1995, p.162) innovation decision process consists of five stages; (1) knowledge occurs when an individual (or other decision-making unit) is exposed to an innovation's existence and gains some understanding of how it functions; (2) Persuasion occurs when an individual (or some other decision-making unit) forms a favorable or unfavorable attitude toward the innovation; (3) Decision occurs when an individual (or some other decision-making unit) engages in activities that lead to a choice to adopt or reject the innovation; (4) Implementation occurs when an individual (or other decision-making unit) puts an innovation into use; and (5) Confirmation occurs when an individual (or some other decision-making unit) seeks reinforcement of an innovation-decision already made, or reverses a previous decision to adopt or reject the innovation if exposed to conflicting messages about the innovation. In addition, these stages could be passed successively and various factors affect the innovation decision process. For instance, Rogers (1995) defined perceived features of technologies that determine their acceptance by users;

a. **Relative advantage** is the degree to which an innovation is perceived as better than the idea it supersedes.
b. **Compatibility** is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters.
c. **Complexity** is the degree to which an innovation is perceived as difficult to understand and use.
d. **Trialability** is the degree to which an innovation may be experimented with on a limited basis.
e. **Observability** is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt it.

In 2002, Wilson et al. added **support** to this list. By support they meant “Is there enough support to do this? Are there enough time, energy, money, and resources to ensure the project’s success? Is there also administrative and political support for the project?”

Another researcher, Roblyer (2006) distilled essential conditions for technology integration from the NETS forums. These conditions are as follows;

- A shared vision for technology integration; to emphasize the importance of technology integration Ringstaff and Kelley (2002) stated that technology "will have little impact without accompanying reform at the classroom, school, and district level" (p.11). Moreover, as Kleiman (2004) stated a clear vision of goals and well-developed plans for achieving them is required to maximize investment in technology.
- Standards and curriculum support,
- Required policies,
- Access to hardware, software, and other resources,
- Trained personnel,
- Technical assistance, and
- Appropriate teaching and assessment approaches.

Also, Ely (1990) proposed a series of necessary conditions for technological change to occur. These are;

- Dissatisfaction with the status quo; dissatisfaction with things in education environment as they are.
- Knowledge and skills exist; the important point is that knowledge and skills must be present for change to occur.
- Resources are available; without the hardware and software, it is almost impossible to implement changes that require such support materials
- Time is available; implementers must have time to learn, adapt, integrate, and reflect on what they are doing.
- Rewards or incentives exist for participants; there must be sufficient reason to consider change and that is where incentives play an important role.

- Participation is expected and encouraged; each person should feel that he or she has had an opportunity to comment on innovations that will directly affect his or her work.
- Commitment by those who are involved; local support for the innovation by key players and other stakeholders is necessary.
- Leadership is evident; even though individuals act alone, especially in classroom endeavors, they need the inspiration and continuing support of individuals whom they respect.

Having necessary conditions may not guarantee full technology integration. Necessary decisions should also be taken into practice. For instance, The CEO forum (1999) defined principles to have effective technology professional development;

- Set relevant realistic goals,
- Include all stakeholders,
- Link professional development to teacher and student needs and objectives,
- Model best practices,
- Encourage learning by doing, and
- Provide resources, incentives, and ongoing support.

The other example is that, Means et al. (1993) and Byrom (1998) defined schools where technology is used extensively and identified seven important factors that contribute to their success:

1. *Technology initiatives should start with instructional goals*; according to Means et al. (1993) most of the teachers "will find little incentive to tackle the technical and scheduling problems associated with technology, unless they have a clear vision of how the technology can improve teaching and learning" (p.72). Similarly, Roblyer (1993) emphasized that "many of the difficulties researchers note (and teachers

experience) in achieving high levels of integration are due, at least in part, to the lack of a clear definition or vision of what this means" (cited in Ertmer, 1999, p.49)

2. *Technology must be linked to curricular goals and frameworks*; successful technology programs provide opportunities for teachers to align technology with the curriculum, such as planning or training sessions where they develop lesson plans that use technology to achieve learning objectives specified by the curriculum. For instance, to emphasize the importance of links to curricular goals (Means, et al., 1993) stated that "[o]ften, technology does not get used because the available software is simply irrelevant to the teacher's curricular goals" (p.72).
3. *Technology and the assessment system must be compatible*; by using appropriate assessment strategies allows teachers to look for evidence of deeper understanding, synthesis, statements of relationships, and generalization of ideas to new domains (Dwyer, 1994).
4. *Teachers and technology need to work together*; according to Dwyer (1994) teachers who are most successful at technology integration are those who are comfortable with technology that they know when to use it for what purposes.
5. *Teachers require ongoing pedagogical and technological support*; schools that are successfully integrating technology into their instructional programs have made a strong commitment to professional development for their teachers. "Teachers need support for deepening their knowledge of content areas and for learning new teaching skills" (Means, et al., 1993, p.74). Similarly, Cakiroglu & Cakiroglu (2003) pointed out the inadequacy of pedagogical support by saying "pedagogical coursework in teacher education programmes is, for the most part, far from acknowledging the realities of Turkish schools" (p.260).

6. Community *and parent involvement enhances the likelihood of success*; for instance, according to Means et al. (1993) the chances for success are improved when parents and the community believe the instructional goals of the reform and comprehend the implications in terms of costs, other activities, and likely effects on test scores. "Ongoing support, including strong participation from principals, administrators, community leaders, and parents can enable all teachers to master new methods and operations, explore new techniques and applications, and observe the effects on student performance" (CEO, 1999, p.12-13).
7. *Business plays an important role in technology and school reform*; after more than a dozen years of providing equipment grants to schools, corporations are now sharing the view that technology per se does not make school reform happen.

One more example is that, Ringstaff and Kelley (2002) defined factors as crucial elements for successfully using technology, include the following.

- Technology is best used as one component in a broad-based reform effort.
- Teachers must be adequately trained to use technology.
- Teachers may need to change their beliefs about teaching and learning.
- Technological resources must be sufficient and accessible.
- Effective technology use requires long-term planning and support.
- Technology should be integrated into the curricular and instructional framework (p. 2-3).

Not all of the institutions, schools, universities, who intended to achieve technology integration process, are successful to reach their goals. There are organizations who failed in their technology integration process. There are various common features of failed innovations. For example, Latham (1988, cited in Dooley, 1999) mentioned some features of common to failed innovations;

- Practitioners become disenchanted and disillusioned because the innovation is more difficult than expected, causing too much disruption and taking too much time.
- Innovation supporters leave or not available.
- People lack training and lost enthusiasm.
- Funding runs out.
- There is inadequate supervision and support from management.
- The program lacks accountability.
- There is a "take-if-or-leave-it" attitude on behalf of program promoters (p.37).

In addition, there are barriers in front of the successful technology integration endeavors. For instance, Dooley (1999) defined some barriers for affective technology integration. These are;

- The most important barrier for an innovation is the system itself. Teachers teach in the manner in which they themselves were taught.
- The inadequate support available to educators.
- Teachers must not only have training on the use of the technology, but on how to use the technology in the teaching and learning process.
- Insufficient time was allocated for teachers to absorb information, try ideas out in their classrooms, and then come back for more discussion.
- Shortage of support for venturesome methods.
- Information or innovation overload and burnout.
- Other factors that influence an innovation's success or failure are compatibility, communication, and evaluation.
- Lack of evaluative component.

Additionally, Ozdemir and Kilic (2006) revealed that many factors militated against the successful integration of ICT;

1. The inadequate attention paid to the professional, organizational and cultural changes needed to realize the project's goals;
2. The consequent lack of time, funding and resources for working through the development process;
3. The emphasis on technology rather than on pedagogy;
4. The inadequate knowledge and skills of the administrators, inspectors, computer coordinators and classroom teachers;
5. The lack of monitoring and timely identification and resolution of problems; and
6. Underlying all of these, a lack of leadership and strategic direction (p.913).

As Kleiman (2004) pointed out "until schools and districts address the need for professional development, technical support, the availability of appropriate software, classroom management, and curriculum integration" (para.13), technology will yield little educational return.

2.8. Teachers Classification in Regard to Their Technology Abilities

Teachers have different technology abilities. To be able to classify teachers according to their technology ability levels is an important and solution needed problem for many organizations and schools. Some organizations provided classifications for teachers according to their technology abilities. For example, The ISTE (International Society for Technology in Education) organization classifies teachers and teacher candidates under the four categories in regard to their technology abilities (Kelly, 2002). These categories are;

- *General preparation*; ISTE provides a General Preparation Performance Profile (Kelly, 2002, p.286-287) list to provide a preliminary list of tools and experiences teacher candidates should have before admission to the professional program. This list does not include discipline-specific

experiences. Similarly, all teachers should have these current technology knowledge, skills, and dispositions

- *Professional preparation*; these teachers have the ability to apply technology in their own classroom at the approaching level. These teachers are accepted as ready and well documented to be successful teachers. Teachers plan and design effective learning environments and experiences supported by technology.
- *Student teaching/internship (first-year teaching*); these teachers provide NETS for Teachers "Technology Operations and Concepts". They also have the necessary ability for the development of the lesson cycle - planning, implementing, and assessing - and pushes the expectations to consistently making instructional decisions that include the effective use of technology.
- *Highly effective teaching*; these teachers integrate technology into the teaching and learning experiences in their classroom and provide models for others to emulate.

A different classification was made by Sherry et al. (2000). They described the life span of a teacher's technology knowledge development. They defined five stages as;

- *Teacher as learner*; teachers learn the knowledge and skills necessary for performing instructional tasks using technology.
- *Teacher as adopter*; teachers' progress through stages of personal and task management concern as they experiment with the technology, begin to try it out in their classrooms, and share their experiences with their peers.
- Teacher as co-learner; teachers focus on developing a clear relationship between technology and the curriculum, rather than concentrating on task management aspects.

- Teacher as reaffirmer or rejecter; teachers develop a greater awareness of intermediate learning outcomes. They begin to create new ways to observe and assess impact on student products and performances, and to disseminate exemplary student work to a larger audience.
- Teacher as leader; experienced teachers expand their roles to become active researchers who carefully observe their practice, collect data, share the improvements in practice with peers, and teach new members.

Another classification was made by the CEO forum (1999). It was reported that teachers should go through five stages during the adoption process. These stages are widely accepted in the literature. The stages are;

1. *Entry*: At this stage teachers are aware of the benefits of technology but they can't be considered as technology users. Their students are learning to use technology. Their students are using technology in ways determined by someone other than the teacher or independently from the teacher. For example, the class may have designated computer lab time taught by the computer teacher or the classroom may have computers in the class and students may utilize from them independently from the teacher.
2. *Adoption*: At adoption stage, teachers are beginning to use technology usually for enhancing their own productivity. At this stage teachers use technology in limited ways such as, while conducting daily tasks, which they have done without using technology before. They experience the advantage of doing traditional tasks by using a new tool, and begin to see the power of the tool for other applications.
3. *Adaptation*: At this stage technology is used to enrich the curriculum and in ways that they are already familiar. They make use of their already existing practices and automate them. For example, a teacher who has located web sites, which reference materials relevant to the course content, present the lesson by using material from the WEB.

4. *Appropriation*: At this stage technology is integrated and used for its unique capabilities. Teachers view technology as a relevant tool for teaching and learning so that they design learning environments and experiences by taking the advantage of technologies capabilities to master the desired outcomes. In appropriation stage, technology begins to reveal its potential to produce improvements in learning.
5. *Invention*: At this stage teachers start to redesign the learning environments and they create new learning experiences for their students (p.14-15).

Although different classifications were made, the idea behind them is similar in that there are stages in teacher technology adoption process and these stages could be passed successively.

2.9. Necessary Conditions to Have Successful Technology Integration

Some essential conditions for technology integration (Ely, 1990; Means et al., 1993; Byrom, 1998; CEO, 1999; Ringstaff & Kelley, 2002; Roblyer, 2006) were mentioned above under the heading "Adoption Process". As Ringstaff and Kelley (2002) pointed out by filling classrooms with all contemporary technologies is not enough to have sound and acceptable technology integration (Ringstaff & Kelley, 2002). To have acceptable technology integration various factors should be obtained in a harmony. The summaries and explanation of these factors as follows;

- *Technology as one piece of the puzzle*; although technology can support educational change, it will have little effect without accompanying reform at the classroom, school, and district level. Successful technology integration could be obtained when teachers view technology as the means to an end, rather than an end itself, and when they see a close connection between technology and the curriculum (Zhao et al., 2002). In addition, as Kleiman (2004) stated, first of all, educational goals must be clarified then plans for purchasing, using, and evaluating the impact of technology must be built up to fit those goals. In other words, to use

technology effectively, it must be fully integrated into school improvement plans, curriculum plans, professional development plans, and all the other plans formulated by schools and districts (Kleiman, 2004).

- *Adequate and appropriate teacher training*; a variety of studies indicate that technology will have little effect unless teachers are adequately and appropriately trained (OTA, 1995; Sandholtz & Reilly, 2004). Teachers already in the classroom are still in need of further training on the integration of computers into their courses (Roberts, Lemke & Myers, 1999; Akbaba-Altun, 2004). Researchers also pointed that student teachers often do not have the opportunity to routinely use technology during their field experiences, and typically are not provided with guidance by a master teacher on how to integrate technology into their instruction (Willis & Mehlinger, 1996; Ozdemir & Kilic, 2006). Training of teachers should not be conducted just for the sake of doing it. Professional development for teachers and teacher educators must be ongoing, stressing purposeful integration for the curriculum and content, rather than merely technical operation (Roberts, Lemke & Myers, 1999; Swenson et al., 2005). Another important point in teacher technology training is that it should not be separate from other efforts to improve teaching, but rather should be integrated into content and skill areas (Roberts, Lemke & Myers, 1999).
- *Specifically, teachers need to be taught how to use technology to deliver instruction*; professional development with technology should focus on how to use computers, software, and other technology tools to teach, not only on mechanics (CEO, 1999; Akbaba-Altun, 2004). In other words, "teachers need to be aware of the enabling conditions of the technology they plan to use" (Zhao et al., 2002, p.511). Hargrave and Hsus (2000) also defined two primary barriers for efficient technology integration in schools; one is lack of confidence and skill in using technology and the other one is lack of knowledge on how to incorporate technology into

teaching and learning processes meaningfully. According to Russell et al. (2003) new teachers are generally comfortable with the technology itself, but they require further training on the value and usage of technology as an instructional tool. On the contrary, Lock (2007) stated that ICT is being used as an integrated component of the learning environment; student teachers have been learning new understandings, skills, and dispositions with regard to technology integration into their teaching environment. She explored her idea by saying "[u]sing an integrative curricular approach that invites real world issues through the infusion of technology has assisted in preparing preservice teachers to be competent and confident in collaborative and integrative multicultural and multi-ethnic classrooms" (Lock, 2007, p.585). In addition to receiving training on how to use technology instructionally, research also suggests that teachers need additional help in learning how to assess products created using technology (Penuel et al., 2000).

- *Changing teacher beliefs about learning and teaching*; integrating technology into instruction is a difficult, time-consuming process; only those teachers who believe that technology use will lead to significant benefits for their students will undertake the associated challenges. As Russell et al. (2003) stated "[t]eachers entering the profession need to develop positive beliefs about technology and skills to use technology in a wide variety of ways" (p.308). ACOT researchers believe that the shifts in teachers' beliefs occurred when teachers began to see firsthand the benefits of technology use (Sandholtz, Ringstaff, & Dwyer, 1997). Also, Hughes (2004) stated that "[e]xplicitly making connections between technology and professional knowledge enables teachers to conceptualize technology's role in education in ways that potentially will make the biggest impact on students' learning" (p.349). Likewise, Ertmer, Gopalakrishnan, and Ross (2001) stated that "[b]y providing realistic visions of what others have achieved, teachers may be motivated to begin their own journeys toward exemplary technology

use" (p.21). Moreover, Hughes (2004) also pointed out that teachers should "have access to alternative practices and beliefs that are reflective of their subject and grade level and observe the positive impact these practices have on students' learning" (p.347).

- *Sufficient and accessible equipment*;
  - Adequate computer-to-student ratio; without sufficient access to technology, of course, even well-trained, highly motivated teachers will not be able to integrate technology effectively into instruction (Grant et al., 2005). For instance, Kleiman (2004) stated that to reach for a ratio of one computer for every six students, many schools have been placing computers in every classroom.
  - Appropriate placement: Classrooms versus computer labs; according to Ringstaff and Kelley (2002) teachers, who have computers in the classroom, report greater confidence and competence in using computers and more time using the computers.
  - Computer access at home; researchers found that students, who had computer access at home, did significantly better than the students, who did not have computer access at home, on standardized writing tests. In addition, teachers who have computers at home could spend more time not only to learn how to use technologies, but also to become more comfortable with them (Ringstaff & Kelley, 2002).
- *Long-term planning*; research suggests that "[t]echnology projects should be implemented only after a planning stage, where administrators and other stakeholders develop clearly articulated standards and goals for technology use" (Ringstaff & Kelley, 2002, p.20). In addition, costs of integrating educational technology should be built into school budgets on an ongoing basis (Glennan & Melmed, 1996). As The CEO forum (1999) proposed the best chance to achieve technology integration into the school setting is "to develop a long-range plan with pre-defined, widely endorsed goals and objectives, including the necessary resources" (p.9).

- *Technical and instructional support*; school administrations "need to reduce the complexity and technical expectations for teachers by taking over maintenance of the hardware and allowing teachers to concern themselves with instruction" (Sandholtz & Reilly, 2004, p.509). According to The CEO forum (1999), teachers real "need is in-depth, sustained assistance as they work to integrate computer use into the curriculum and confront the tension between traditional methods of instruction and new pedagogic methods that make extensive use of technology" (p.11). Since teachers are the key persons of "success for students, their individual requirements for mastering new methods, knowledge, and techniques deserve particular attention" (CEO, 1999, p.14). From this finding it can be said that as teachers begin using technology for more sophisticated purposes, instructional support is as essential as technical support (Means et al., 2000; Sandholtz & Reilly, 2004). According to the researches it can be said that adequate access to technology is a key factor in successful implementation. Researchers investigating the impact of technology on student learning have found that a major barrier to technology use is the lack of technical support. Technical and human support is also considered as essential elements during the implementation of technology in the classroom by Zhao et al. (2002). The effective use of technology requires an adequate school and district infrastructure and must include timely, on-site technical support (Means et al., 1990; Becker, 2000; Penuel et al., 2000; Sherry et al., 2000; Ringstaff & Kelley, 2002). At ACOT sites, a full-time coordinator gave teachers this crucial assistance. Researchers found that the most crucial determining factor in whether the teachers who participated in the program integrated technology into their classroom successfully was the level of support they received from school and district administrators (Ringstaff & Kelley, 2002). Similarly, Ozdemir & Kilic (2006) see one of the reasons of failure of technology integration as inadequate training for the administrators, inspectors and principals caused many of them

exhibited negative or non-supportive attitudes towards the computer coordinators and technology and finally the integration project.

- *Technology integrated within the curricular framework*; to use technology effectively, teachers must understand how its use fits into the larger curricular and instructional framework (Graham et al., 2004). For instance, Swenson et al. (2005) made a study to investigate beliefs about technology and the preparation of English teachers and stated that teachers need to understand not only how to use technologies, but also the benefits and costs technologies adoption and integration into English language arts and literacy teaching have the potential to create for teachers, students, and the broader community. In addition Zhao et al. (2002) found that "when a teacher's pedagogical approach to teaching was consistent with the technology she or he chose to use, the efforts to use technology were more likely to yield positive results" (p.492).

After exploring some necessary conditions to have successful technology integration, Hughes (2004) principles for technology learning for preservice and inservice teachers could be an example for it. His principles are as follows;

- *Connect technology learning to professional knowledge*: "Technology learning should be closely connected to teachers' professional knowledge, that which directs their professional activities" (p.347).
- *Privilege subject matter and pedagogical content connections*: "To achieve integration into subject matter learning, the "context" must involve specific connections between technology and subject matter and/or pedagogical content knowledge" (p.350).
- *Use technology learning to challenge current professional knowledge*: "[L]earning new technology leverages teachers' reflections on the nature of teaching and learning during which they access, consider, question, and eventually change their professional knowledge and practice" (p.352).

- *Teach many technologies*: "[T]o increase the likelihood that teachers may identify technologies that fit their needs, technology-learning opportunities must include many technologies" (p.354).

2.10. Barriers to Technology Integration

There are many teachers that they do not use computers and other technologies regularly for instruction despite improved access. Most education leaders believe the under-usage is a result of at least four factors: inadequate teacher training; a lack of vision of technology's potential for improving teaching and learning; a lack of time to experiment; and inadequate technical support (OTA, 1995). Specifically, the OTA lists the following barriers to teachers' use of technology:

- Lack of teacher time:
  - Experiment with new technologies
  - Share experiences with other teachers
  - Plan lessons using technology
  - Attend technology courses or meetings
- Access:
  - Hardware and software are limited
  - Upgrades, support, and training are continuing costs
  - Technologies may not be located in or near the classroom
  - Much of the hardware in schools is old and cannot handle newer applications
  - Telecommunications requires new or updated wiring or phone lines
- Vision:
  - Schools and districts need technology planning and leadership
  - Teachers need an understanding of curricular uses of technology
  - Teachers lack models of technology for their professional use
  - Messages on best uses change as technologies change
- Training and support:

    - Districts spend far less on teacher training than on hardware and software
    - Training focuses on the mechanics, not on integrating technology into the curriculum
    - Few schools have a full-time school-level computer coordinator
- Current assessment practices:
    - Standardized tests may not reflect what students learn with technology
    - Teachers are held immediately accountable for changes that take time to show results (p.3).

Another researcher, Ertmer (1999) noted that barriers to technology integration can be classified as first order barriers and second order barriers. She defined first order barriers as types of resources (e.g., equipment, time, training, support) that are either missing or inadequately provided in teachers' implementation environments. Second order barriers are defined as "typically rooted in teachers' underlying beliefs about teaching and learning and may not be immediately apparent to others or even to the teachers themselves" (p.51). Ertmer et al. (1999) made a study to examine the relationship between first- and second-order barriers to technology implementation by observing and interviewing several teachers. Although, reasons of perceived barriers varies, teachers mentioned about lack of equipment, lack of time, not enough help, and classroom management as main barriers in technology integration.

One or more than one of these stated barriers may prevent successful technology integration or the negative effects of some barriers may be discarded by taking necessary / suitable precautions.

2.11. Summary

Although, there are many endeavors for many years about technology integration into the teaching environment, there are still problems in teacher education institutions and inservice teachers. Technology integration has a long

history in Turkish educational system and still need to be developed. The suitable use of technologies has some benefits to the teachers and students but, technology integration requires many steps to be achieved. Additionally, technology integration could not be done in a short period of time, it requires a development process. In addition, there are various stages need to be passed successively to be an exemplar technology user. Moreover, there are various classifications which differentiate teachers according to their level of knowledge in the technology integration process. Finally, although there are facilitators of technology integration endeavors, there are also barriers to technology integration

CHAPTER 3

METHOD

This chapter presents the purpose of the study, design of the study, participants, data collection and analysis, reliability and validity, and limitations of the study.

3.1. Purpose of the study

The purpose of this study is to investigate high school English teachers' instructional technology knowledge, instructional technology usage in their teaching, instructional technology usage for professional development, administrators' perceptions about using technologies in educational settings, and to develop technology integration guidelines for English teachers.

The following research questions guide this research:

1. What are high school English teachers' perceived competency levels in instructional technology and how did they learn to use these technologies?

2. How do they plan to use or integrate instructional technologies in their courses?

3. For what purposes and how do they use instructional technologies in their courses?

4. In assessment and evaluation, how and for what purposes do they use instructional technologies in their courses?

5. How do they use technology to develop professionally?

6. What do they consider about social, ethical, legal, and human issues while using instructional technologies?

7. To what extent do teachers have technological and administrative support?

8. What could be done to enable high school English teachers as technology users in their teaching?

3.1. Design of the Study

In this study qualitative research design was used. The qualitative research design is suited for investigating the phenomena within different high school districts. Because, this research is concerned with describing high school English teachers' instructional technology knowledge, their instructional technology usage and their attitudes while using instructional technology in their courses. These objectives require an in-depth analysis of the setting and participants. This study aims to present a detailed picture of the phenomenon based on the research questions.

Research is a systematic process by which we know more about something we did before engaging in the process (Merriam & Simpson, 1984). Qualitative study is an inquiry of understanding social or human problems based on building a complex holistic picture formed with words, reporting detailed views of informants, and conducting the research in natural setting (Creswell, 1994). Considering the purpose of the study, the qualitative paradigm is the appropriate choice.

The positivist perspective and ideas shape qualitative research. According to this perspective, reality is constructed through one's interaction with his environment (Merriam, 1998). Postpositivists argue for the existence of multiple realities in that you can only know something from a certain position. A major influence of interpretation and position of the qualitative research is interpreter

(Bogdan & Biklen, 1998). The qualitative research is characterized by the collection of descriptive and in-depth data providing information regarding people and places, and by the process utilized in the collection of data in a natural setting.

There are several features of research that are often reserved for qualitative or naturalistic inquiry. The research occurs in a natural setting and the researcher is the key instrument. Educational qualitative research frequents places where the events naturally occur because it is concerned with context (Bogdan & Biklen, 1998). Meaning is also an essential concern to the qualitative approach.

Creswell (1998) defines five types of qualitative study; biography, phenomenology, grounded theory, ethnography, and case study. Each of them has its own specific design characteristic and terminology. This study resembles multi case studies as Bogdan and Biklen (1998) stated, "[w]hen researchers study two or more subjects, settings, or depositories of data they are usually doing what we call multi case studies" (p.62). In the study different high schools (regular, private, vocational, Anatolian) English teachers' technology integration into their courses were investigated.

In this study, high school English teachers' technology integration into education is investigated. Their usage of instructional technology in their courses is elaborated. In addition, their attitudes toward using instructional technology are investigated. To be able to obtain this sort of data, first of all teachers were observed in their courses during their busiest teaching day. Annual/lesson plans teachers prepared for their courses were collected. Then, semi-structured interviews with teachers were conducted, with specific focus on their class performance and annual/lesson plans. The interviews were conducted after observations and collection of the annual/lesson plans in order not to influence teachers' performance during their teaching. The school managers were also interviewed about the English teachers' instructional technology usage and schools facilities, after the school's English teacher interview. The observations, administrators' interviews, and some of the teacher interviews' were done in their natural setting as well. Some of the teachers were interviewed outside the school according to their requests.

3.2. Participants

Sampling in field research involves the selection of a research site, time, people and events. The most appropriate sampling strategy is non-probabilistic- the most common of which is called purposive or purposeful (Patton, 1990). Purposeful sampling is based on the assumption that the researcher wants to discover, understand and gain insight, and therefore must select a sample from which most can be learned (Merriam, 1998). Patton (1990) argued that the logic and power of purposeful sampling lies in selecting information rich cases for study in depth. These assumptions guided the selection of the research site for this study. Availability, accessibility, and feasibility issues were also considered while selecting the research site.

There are many schools of various types in Ankara district. To be able to define a setting in a study, the selected sample for the investigation should be as much a representative of the population as possible (Keppel, 1991; Bogdan & Biklen, 1998). For this study, from four types high schools (private, Anatolian, vocational, regular), 17 high schools and an English teacher from each selected school were chosen. For the private high schools data, four schools were chosen including well known (popular) and relatively new (unpopular) private high schools. Likewise, while choosing Anatolian high schools for the study, it was aimed that relatively new and old high schools included in the sample. Similarly, four vocational high schools were chosen by considering, sample includes relatively new and old high vocational schools. Finally, regular high school tried to be chosen from different regions by considering regions' socio-economic-status (SES); two schools from relatively high SES regions, two schools from relatively normal SES regions, and two schools from relatively low SES regions. Totally 17 different high schools and an English teacher and an administrator from each selected school were used in this study, by considering also accessibility issues. Table 3.1 shows some properties of schools included in the study.

Table 3.1: Information about the Studied Schools

School*	School History (Year)	Number of Students	Number of Teachers
P1	12	150	25
P2	12	175	26
P3	9	400	40
P4	4	265	37
A1	3	565	45
A2	21	1230	90
A3	13	249	21
R1	26	2300	110
R2	3	1200	53
R3	7	575	38
R4	17	2500	102
R5	16	1724	55
R6	14	1600	70
V1	9	750	50
V2	14	280	32
V3	29	3000	204
V4	20	1200	90

* P=Private High School, A=Anatolian High School, R=Regular High School, and V=Vocational High School

Private high schools depend primarily on the parental support. These schools serve better educational environment compared with public schools. Anatolian high schools select students by a governmental entrance exam and applicants must have completed their compulsory education without repeating any year. Any students have a right to enroll in regular high schools. Vocational high schools aim training and educating students for employment.

Graduating after 2001 from university was a criterion for the selection of these teachers. The aim of having this criterion was choosing teachers who have graduated by getting instructional technology courses. To find the appropriate public high schools, who have teachers carrying this criterion in Ankara district, a request was made to the MoNE. The MoNE provided the list of the schools which have English teachers graduated from universities in 2001 or later. The MoNE gave only the names of the schools. They did not give teachers names because of the privacy issues. After getting the schools list, necessary application was made to the

university's ethical board. The ethical board approved the study and sent it to the MoNE for their consent. Necessary permissions were given from MoNE and Ankara Governorship. After getting the permission, public high schools samples were chosen from the schools list. While deciding which public school to include in the study, predefined criteria were checked by advisor. However, in Anatolian high school samples case, the MoNE gave only five Anatolian schools name that have English teacher graduated from university after 2001. Two of these teachers could not be included in the study. For that reason, although four Anatolian high schools were planned to be included in the study, only three of them were included. The information about the schools was gathered from the schools' web sites, National Education Administrative Office of Ankara's web sites, and by calling schools. After deciding the schools, administrators, assistant administrators, or English department head of the schools were visited, the information about the study was given, and permissions about the study were presented. Administrators examined their personnel databases and found the teachers who had necessary qualifications. Administrators introduced researcher to the teachers and gave brief information about the study and asked for their voluntary contribution. Except two Anatolian High school English teachers, none of the teachers rejected to be in the study. But, some of the teachers in the MoNE school list have been transferred to other schools or have been charged by temporary duties in primary schools. After getting school and teacher's permission, teachers were given general information about the study and detailed information about the requested data. Communication information was exchanged between teachers and researcher.

For the private high schools teachers, the names of the schools were collected in Ankara district. Possible schools list who have predefined properties for the study were developed by advisors. A contact person was found from these schools and an appointment was arranged with one of the administrators (managers, assistant managers, or English department heads) of these schools. In the appointment, necessary information was given to administrators, permission requested if there was a teacher who has the necessary criterion. Administrators looked at their personnel databases and found the teacher who has necessary

qualifications. Administrators introduced researcher to teachers and gave brief information about the study and asked for their voluntary contribution. Only one of the private high school English teachers rejected to be in the study. Besides, there were no suitable teachers in two private high schools. Table 3.2 shows information about all of the teachers included in the study. In addition, the teachers were graduated from different universities; four of them from Gazi University, three of them from Hacettepe University, two of them from Anadolu University, two of them from Middle East Technical University, and one from Ankara, Bilkent, Atılım, Ege, Fatih and Süleyman Demirel University.

Table 3.2: Information about the Studied Teachers

School*	Grad. Year	Program	University	Date	G. H**	Experience***	High ****
P1	2002 2004	- ELL***** - FLE Master	Bilkent	2004	Private	...	3
P2	2003 2006	- ELL - English Culture (MA), - Pedagogic Formation	Hacettepe	2005	Regular	...	1
P3	2003	- ELL - Pedagogic Formation	Ankara	2003	Anatolian	2 year in private institutions preparing students for various exams.	2
P4	2003	- FLE	Gazi	2003	Anatolian	Private tutoring	4
A1	2002	- FLE	Anadolu	2002	Regular	2 year in a charity organization, 1 year in private English Course, 1,5 year American Cultural Association, 6 months in NATO base	5
A2	2003 Continues	- FLE - Social and Historical Development of Edu. (MA)	Gazi Ankara	2003	Regular	.....	3,5
A3	2003	- FLE	Süleyman Demirel	2003	Anatolian	....	4
R1	2001	- FLE	Gazi	2001	Anatolian	...	6
R2	2002	- FLE	Fatih	2002	Private	in private institutions preparing students for various exams.	5
R3	2003	- FLE	Hacettepe	2003	Anatolian	...	3
R4	2003	- FLE - Criminal Investigation(MA)	Ege	2003	Regular	...	2
R5	2003	- ELL - Pedagogic Formation	Atılım Hacettepe	2003	Regular	...	1
R6	2002	- FLE	Anadolu	2002	Vocational	...	3
V1	2001	- Biology Education - Microbiology	ODTU Pamukkale	2001	Regular	...	6
V2	2006	- FLE	ODTU	2006	Anatolian	...	1
V3	2002 Continues	- ELL - Curriculum Development - Pedagogic Formation	Hacettepe Ankara Ankara	2002	Private	...	5
V4	2004	- FLE	Gazi	2004	Anatolian	...	2,5

* P=Private High School, A=Anatolian High School, R=Regular High School, and V=Vocational High School
** Type of graduated high school
*** Teachers' teaching experience before being a teacher
**** Number of years as high school English teacher
***** English Language and Literature

The administrators (managers, assistant managers, or English department heads) were chosen from the schools by including people who gave the permission for the study. All of the contacted administrators were also interviewed on a voluntary basis. There was no criterion for the administrators for this study, being

the school administrator at any level was the only prerequisite. Table 3.3 shows the interviewed administrators' positions in the studied high schools.

Table 3.3: Administrators' positions

School*	Administrator's Position
P1	Head of the English department
P2	Principal
P3	English department head
P4	Principal
A1	Principal
A2	Principal
A3	Principal
R1	Assistant Principal
R2	Principal
R3	Principal
R4	Assistant Principal
R5	Principal
R6	Principal
V1	Assistant Principal
V2	Principal
V3	Head of the English department
V4	Assistant Principal

* P=Private High School, A=Anatolian High School, R=Regular High School, and V=Vocational High School

This was criterion sampling strategy as all cases meet some criterion which is useful for quality assurance (Patton, 1987). All the teachers were observed in their natural teaching environment during their busiest teaching day. Teachers were interviewed on different places according to their requests. In addition, the teachers' course annual/lesson plans were collected as well. Moreover, these English teachers and school administrators were included in the study voluntarily. After getting the names of the school from MoNE, according to properties of the schools a classification was made like old (well known) private high schools or new (not well known) private high schools with the advisor and co-advisor of the study. After this classification, the participating schools were chosen based on accessibility issues. To disguise the personality of the participants all of the teachers and administrators were regarded as female.

3.3. Data Collection

3.3.1 Instruments

Observation guide: Lincoln and Guba (1985) stated that, "as certain themes emerge throughout the study, persistent observation identify those characteristics and elements in the situation that are most relevant to the problem or issue being pursued and focusing on them in detail" (p. 304). But, one must realize that the researcher is participating in the field during a day for several hours. If any prejudices or biases occur, the researcher is constantly challenged by the data alone (Bogdan & Biklen, 1998, p.33). Observations were conducted based on a pre-prepared observation guide. The purpose of observation was to describe the high school English teachers', who were selected as participants for this study, use of instructional technologies in their regular courses to provide triangulation for the interview data and to provide basis for the interview schedule development. The observation guide included five themes to be noted down during the observed lesson. The themes are; 1- Time (it shows when each subject of the lesson starts and finishes), 2- Subject of the Lesson (shows each subject of the observed lesson), 3- Used materials (it gives information about the used tools or materials during each subject of the lesson), 3- What teacher does (shows what teacher does during each subject e.g. what s/he writes, what s/he tells, what she requests from students, etc…), and 5- What students do (shows what students do during each activity e.g. answer the teacher's questions, talk about the presented pictures, elaborates the meaning of the sentences, etc…). A sample of the observation (Private high school 1) document is provided in Appendix A.

Annual / Lesson Plans: As Marshall and Rossman (1999) stated, analysis of appropriate written documents may be advantageous in collecting archival data related to the research questions. For that reason, from each teacher their course annual/lesson plans was obtained. These annual/lesson plans might help to clarify their instructional technology knowledge, to show how they plan to use instructional technologies in their courses, to explain how they use instructional technologies in

their courses, and to understand what they consider while using instructional technologies.

Interview Schedule: Patton (1990) believed that the purpose of interviewing is discovering what is in and on someone else's mind. However, the quality of the information obtained during an interview is largely dependent on the interviewer. The researcher is competent enough to do this study. The researcher is a Ph.D. student in Computer Education and Instructional Technology department. He has written a master thesis titled as "Evaluation of Preservice Foreign Language Teachers' Perceptions about Their Technology Competencies". He has taken "Qualitative Research Methods in Education" course. As a requirement of this course, he piloted this study. He did all the steps and wrote a report under the supervision of the instructor. For instance, he observed and interviewed three English teachers. In addition, he developed the interview schedule during this lesson under the supervision of the instructor. The interview schedule used in this study as well is in Appendix B. There were eight main categories in the interview schedule: (1) teachers' educational background, (2) teachers' basic technology knowledge, (3) teachers' knowledge about the use of technology in planning and designing learning environments and experiences, (4) teachers' knowledge about the use of technology in teaching, learning, and the curriculum, (5) teachers' knowledge about the application of technology in assessment and evaluation, (6) teachers' knowledge about the ways of using technology for their productivity and professional practice, (7) teachers' knowledge about the use of technology for social, ethical, legal, and human issues, and (8) the accessibility of the available technologies for the use of teachers in schools.

NETS-T: The interview schedule was developed based on the International Society for Technology in Education's National Educational Technology Standards for Teachers (Appendix C). In addition, it was used while developing coding categories.

Administrative Interview Schedule: The interviews with the school administrators were semi-structured in nature. The administrative interview schedule is provided in

Appendix D. There were four main categories in the interview schedule; (1) what kinds of technologies are available for the teachers use? (2) Do they have some endeavors to able the teachers use these technologies? (3) Do they want to have some technologies, which they do not have currently? (If answer is yes, why do they want them?) (4) Do they support/help teachers when they want to use some technologies in their courses? (Assign places and time to use these technologies, try to solve possible problems that teachers faced while using these technologies, give out free time to teachers to be prepared and prepare materials, etc…).

General Preparation Performance Profile Test (Kelly, 2002): While developing the interview schedule questions for the first indicator (Demonstrate introductory knowledge, skills, and understanding of concepts related to technology) of the "technology operations and concept" category of the NETS-T, ISTE's "General Preparation Performance Profile Test" indicators were used. They are in Appendix E. They are also used in the data analysis part while defining teachers' level of introductory knowledge, skills, and understanding of concepts related to technology.

CEO forum Classification: In this study for the classification of the teachers included in the study the CEO forum (1999) classification was used. The CEO forum (1999) reported that teachers should go through five stages during the adoption process. These stages are entry, adoption, adaptation, appropriation, and invention. This classification is widely accepted classification in the literature. The CEO forum (1999) classification stages are in Appendix H.

3.3.2. Data collection process

Observation: Teachers were observed in their courses during a whole day. For the observation the busiest teaching day (the most number of hours and different classes) of the teachers tried to be adjusted. The busiest day of the teacher was chosen by thinking to increase the possibility of seeing teachers' various ways of teaching and different technology usage in different classes. By choosing the busiest day of teachers, they are planned to be observed in different classes with different subjects. When a school was visited for the observation, the teacher was observed

by entering to the classroom with the teacher and sitting on the back of the classroom. The decision of the researcher's introduction to the classroom was left to the teacher. In some schools, teacher said only "We have a guest today". In some schools, teacher introduced researcher briefly by saying "We have a guest today, he is doing a study. He will be in our class at the back of the classroom". In some schools, teacher wanted researcher to introduce himself. Researcher gave brief information about himself and said "I'm a research assistant at a university and I came here for my Ph.D. study". All of the teacher's performances and students' activities in the classroom were written on observation forms. Teachers were observed during the lesson breaks and lunch break (if possible) in order to see their preparations for the courses and to collect more information for the interview. Three observations were interrupted for some school's activities. These schools revisited once more to complete observations. After the observation period, the collected information during the observation was written on computer documents. Each teacher's observation data were analyzed while preparing the interview schedule for that teacher. Table 3.4 shows information about observation date and number of observed lessons of the schools included in the study.

Table 3.4: Information about Observations

School*	Observation Date	Observed Lessons	Topics in Observed Lessons	Min-Max**
P1	April, 26	4 hours	Reading & matching, Quiz (Listening), Quiz, Homework, Culture, Exercise group work, Listening	10-17
P2	May, 31	4 hours	Speaking, Games, Explaining some words, Acting, Dancing, Singing	18-18
P3	April, 24	5 hours	Newspaper (News), Homework, Reading, Listening, Comparatives, Exercise, Superlatives – ever – present perfect, Adjectives & exercises, Finding the definitions, Game (man hanging)	6-18
P4	May, 17	2 hours	Single student's presentations and group of students' presentation	22-22
A1	April, 27	5 hours	Conditional Clauses, Exercises, Homework, Exams, Feeling & sport, Reading, Forms of words, Matching, Video, If Conditionals	15-29
A2	April, 18 May, 2	1 hour 5 hours	Occupations, Summarizing, Features & relative clauses, Usage of some words (Which, what, and that), Exams, Reported speech, Reading, Writing, Listening, Fill in the blank, Adverbs, Comparatives, Adjectives or Adverbs, Video watching, Exercises	28-30
A3	May, 10	2 hours	Transforming, Exercises, Reported Speech	17-17
R1	April, 16	4 hours	Summary of the previous lesson, Reading, Listening, Ordering events, Structures' comparison, Comparatives, Superlatives, Vocabulary Learning & Drama, Grammar (usage of a, an, the), Exercises (matching), Exercises (choose the correct one a, an, or the), Exercises (a, an, or the), Usage of tell & say, Finding meaning of words, Finding rules (be + Ving), Holiday Places	25-38
R2	April, 6 April 19	2 hours 5 hours	Usage of must & mustn't, Exercises, Homework, Matching exercises, Will (future), Must (n't) /need (n't), Summarizing, Past Continuous Tense, Gerund Infinitive, Propositions & gerunds, Adjectives, proposition (gerunds), Gerunds & tenses, Infinitives + nouns, Abbreviations, Adjectives (summary), Fill in the blank questions	7-28

Table 3.4 (Continued)

R3	April, 20	5 hours	Formal writing, Justifying opinions (exercise), Reading, Listening, Finding mistakes, Group work (exercise), Possessive pronouns, Fill in the blank exercise, S. Past Tense, Exercises, Converting rules to V2, Self assessment module, More word (finding unnecessary)	15-31
R4	May, 17	6 hours	Exam, Reading, Gerunds (while, after, before, without), Commands / imperatives, Exercises, Game	28-36
R5	April, 12	3 hours	Future forms, Simple future tense, Exercises, opposite words, Optimist vs. Pessimist, Matching, Auxiliary verbs, possessive pronouns, possessive adjectives & subject pronouns, Pronunciation, Reading	43-50
R6	May, 3	3 hours	Question Tags, Exercises, Exams, Reported speech	32-34
V1	April, 17 May, 8	2 hours 3 hours	Propositions, The positions of place, Conditional clauses, Type 1 conditional clauses, Type 1 matching, Used to, Exercises, Relative clause, Jobs & exercises, Climates, Reading, Question tags	27-32
V2	April, 9	7 hours	Present Perfect Tense (PPT), Comparison of simple past tense & PPT, Adverb of times in PPT, Examples for and since, PPT examples, Hurry up & Bless you, Exercises	24-27
V3	April, 11	7 hours	Present Perfect tense (PPT), PPT & Simple Past Tense, Exercises, Reading dialogue, Since & for, Convert simple past to PPT, Homework	25-33
V4	April, 4	9 hours	Present Perfect Tense, Comparing tenses, Since & for, Exercises, Homework, True and false questions, Completing the sentences, Time of adverbs, Irregular, regular verbs, From ….. to structure	27-38

* P=Private High School, A=Anatolian High School, R=Regular High School, and V=Vocational High School
** Shows minimum and maximum number of students in observed lessons

Review of annual/lesson plans: The documents were collected on the observation day. From each teacher their course annual/lesson plans were obtained. Some teachers did not have lesson plans and some did not have annual plans. Table 3.5 shows the number of lesson/unit plans that were collected.

Table 3.5: Collected Annual/Lesson Plans

School*	Lesson Plan	Unit Plan
P1	3	2
P2	4	1
P3	3	1
P4	-	1
A1	-	-
A2	-	2
A3	-	1
R1	-	1
R2	-	1
R3	-	1
R4	-	2
R5	-	-
R6	-	2
V1	3	3
V2	2	2
V3	-	2
V4	1	-

* P=Private High School, A=Anatolian High School, R=Regular High School, and V=Vocational High School

Interviews: Interviews were conducted on a voluntary basis with the 17 high school English teachers of high school in Ankara district. The interviews were semi-structured in nature. Bogdan and Biklen (1998) mentioned that with semi-structured interviews the researchers are confident of getting comparable data across subjects. The interview questions were developed based on NETS-T indicators. There were six main categories in the interview; (1) teachers' instructional technology knowledge and sources of knowledge (2) the place of instructional technology in course plans, (3) the usage of instructional technology in their courses, (4) the usage of technology for their own purposes, (5) their attitudes/approaches toward using instructional technology, and (6) administrative support they get from administration. Before the interviews, the observation notes and annual/lesson plans were analyzed to be able to ask exploring and relevant questions. All of the interviews were recorded by getting permission. The interviews took 18-53 minutes. Two interviews were made in a silent corner of the teacher room, one interview was made in an English teacher's group room, and the other fifteen interviews were made in a separate / silent room.

In addition to interviews with the teachers, interviews were conducted with one administrator from each of these 17 high schools. The administrators' interview in schools was made after the interview of the school's teacher. Five of this administrator did not accept the recording of interviews. For that reason, notes were taken in these interviews. The other administrators were recorded by getting their permissions. The interviews took approximately 15 minutes.

3.4. Data Analysis Procedure

Data analysis is the process of making sense out of the data (Merriam, 1998). Before starting the data analysis the focus of the study should be stated explicitly. Without the focus the data collection has no direction; the data collected may not be enough to accomplish analysis later (Bogdan & Biklen, 1998). After deciding the focus of the study, the tasks in data analysis are to organize the data; generate categories, themes and patterns; code the data; test the emergent understandings; search for alternative explanations; and write the report (Marshall & Rossman, 1999). There are two types of analysis; descriptive analysis (simply describing and interpreting the data collected) and content analysis (identify underlying ideas, issues, concepts, themes and patterns in the data). In this study, basically content analysis was used.

The observation notes collected during observed lessons were written just after the observation period in a detailed manner on a computer document. A sample of the observation (Private high school 1) document is provided in Appendix A. While analyzing the observations; the categories in the observation guides were used. Observations were analyzed immediately, before preparing the interview schedules of the teachers. Indeed, some of the interview questions were revised based on the analysis of the teacher's observation. Then teachers' performances and students' activities were examined to reveal teachers' way of teaching, their usage of technologies, their purpose of using technologies, their teaching strategies, their expectations from students, and the support they get. Then the observation analysis was grouped under school types separately, before summary of that particular school type.

The annual/lesson plans were collected during the observation period or just after or during the observation periods. Three teachers stated that they were following course book for that reason they did not have annual lesson plans. In addition, 11 teachers were not using lesson plans or did not wanted to give their lesson plans to the researcher. Totally, 16 lesson and 22 annual plans were gathered from 15 teachers. Each teacher's annual/lesson plans were analyzed together with the observation notes before the interview schedule was prepared. The findings of the annual/lesson plans analysis were presented with the observation analysis in the results section.

The interviews were transcribed, typed and coded as to the main data sources. While deciding coding categories the NETS-T was considered. This standard was prepared for all kinds of teachers (NETS-T, 2003) and has six parts (technology operations and concepts; planning and designing learning environments and experiences; teaching, learning, and the curriculum; assessment and evaluation; productivity and professional practice; and social, ethical, legal, and human issues). Before creating coding schema, all of the studied teachers were analyzed by using this standard's indicators by finding evidences from observation data, annual/lesson plans, and interview transcripts. While categorizing the teachers on the first indicator (Demonstrate introductory knowledge, skills, and understanding of concepts related to technology) of the "technology operations and concept" category of the NETS-T, ISTE's "General Preparation Performance Profile Test" indicators were used. "General Preparation Performance Profile Test" indicators are presented in Appendix E. After analyzing teacher's competencies with regard to NETS-T, developing coding schema was started. Although NETS-T has six categories, there are eight basic coding categories which cover all the questions of this study. The categories are general knowledge, planning, using, evaluation and assessment, personal purpose, attitudes, support, and wishes. The points under these basic categories were developed inductively during interview analysis. The points were revised and tested during and after the analysis. Brief description of the points was supplied in order not to mix the usage of the points later. Suitable and relevant abbreviations were developed for the points to make the coding process easy and

understandable. In order to get best explanations, alternative ways (found by searching literature or by consulting advisors) were elaborated as well. Later, the codes were elaborated again in order to categorize them. The category names were found from the codes or from the related literature. Then, codes were moved to the suitable categories. Teachers' interview coding categories frequencies are presented in Appendix F. The administrators' interviews were analyzed in a similar manner as well. The emerging categories in administrators' interviews were available school resources, how teachers use these resources, wishes of administrators, inadequacies of their schools, benefits of the use of technologies, and needs of the teachers. During the coding process advisor and co-advisor of the study were consulted and their recommendations were considered in each step. Administrators' interview coding categories frequencies are in Appendix G.

Knowing that teachers' classification according to their technology abilities is important and it is a common problem for many organizations and schools. In this study for the classification of the teachers included in the study the CEO forum (1999) classification was used. The CEO forum (1999) reported that teachers should go through five stages during the adoption process. These stages are entry, adoption, adaptation, appropriation, and invention. This classification is also widely accepted in the literature. While deciding studied teachers' classification stage, all of the evidences (from interview, observation, and annual/lesson plans) of the NETS-T indicators of the teachers were collected and written under each NETS-T indicator. Then, teachers' classification stage was defined based on the definition of the classification stages.

3.5. Reliability and Validity Issues

3.5.1. Reliability

"In qualitative studies, researchers are concerned with the accuracy and comprehensiveness of their data. Qualitative researchers tend to view reliability as a fit between what they record as data and what actually occurs in the setting under study" (Bogdan & Biklen, 1998, p.36). Bogdan and Biklen (1998) also stated, two

researchers studying a single setting may come up with different findings but both studies may be reliable. One would only question the reliability of one or both studies if results yielded were contradictory or incompatible. The role of the researchers in qualitative researches is to describe accurately what is out there and not necessarily to replicate the same observations and results of another researcher.

Guba and Lincoln (1981) suggested thinking about the dependability or the consistency of the results obtained from the data. To ensure results are dependable, this research adhered to the following standards of;

- *Stating clearly the assumptions and theory behind the study, the basis of selecting informants, a description of participants*; the properties of the qualitative studies explained in the design of the study in a detailed way, the idea and theory behind the selection of informants explained in the participants section, and various information about the informants are provided in participants section as well.

- *Constructing a triangulation of data by using multiple sources of data or multiple methods*; the observation, annual/lesson plans, and interview data were collected from teachers and interviews were made also with school administrators. In a single school, teacher observation was made first, then annual lesson plans were collected, after that interview schedules were prepared by considering observation notes and annual/lesson plans, and finally semi-structured interviews were made. After collecting data about the teacher, administrator's interviews were made. Three types of data collected from teachers and two sources (teachers and administrators) were used in the study.

- *Auditing the trail whereby the data collection, categories selection, and decision-making processes are described in detail*; the detailed information is given about data collection, categories selection and decision-making process in the study.

3.5.2. Validity

The validity issue was handled under two headings; internal validity and external validity (generalization).

Internal validity deals with how well research findings match the reality. In this study the data gathered from the participants were recorded. Also to ensure the internal validity the following strategies were followed;

1. *triangulation:* comparison of the interviews with the annual/lesson plans and observations,

2. *check on accuracy of recorded data and tentative interpretations by validation with the people from which the data came*: the transcripts of the interviews were sent to 15 of the 17 the teachers by e-mail and two of the teachers did not want to see the transcripts. 11 of the teachers turned back, five of them requested slight changes, all of them were about structure of sentences and the rest of the six did not want any change,

3. *affirming descriptions and interpretations through peer examination by asking colleagues to comment on findings as they emerge*: in all steps of the data analysis procedure the advisor's and co-advisor's comments were collected and taken into consideration, and

4. *clarification of researcher's bias and theoretical orientation of research by stating these at the onset of study:* the information about researcher is given.

Generalization or external validity is the extent to which findings from one study may be applied to other situations. As Merriam (1998) stated, generalization in qualitative study takes a different meaning. It is reframed to reflect the underlying assumptions of the inquiry. The researcher attempted to provide thick, rich descriptions so that anyone else interested in transferring ability has a base of information appropriate to the judgment.

3.6. Ethical Issues

Because the objects of inquiry in this research are human beings, it is of prime importance to take extreme care to avoid any physical or emotional harm to the participants. The participants were given informed consent, which includes information about the purpose and the process of the study. Permission was taken from the institution that the fieldwork of the study took place. Participants were informed that participation is a voluntary and that they can withdraw from the study any time they feel the need and their identities will be protected. The transcription of interviews was shown to the teachers for their check.

3.7. Limitations

The researcher is the main instrument of data collection and analysis, the integrity of the investigator is crucial. This is one of the limitations of this study, and other qualitative researches as well. In addition, it may be not possible to make generalization from the results of the study to a large population.

The data source for this particular study is mainly the participants – human beings. The researcher relies on participants' responses in describing the situation and interpreting the data. The researcher should ensure that the participants will be honest while reflecting their ideas, otherwise it can be considered as a limitation for the study.

In the study, teachers' methods/ways of learning things about the technologies and their usage were collected and reported. However, it does not cover any information about the relation between the courses of the teachers' graduated program and teachers' professional / personal development.

CHAPTER 4

RESULTS

There are some abbreviations used in the results section to describe teachers included in the study e.g. P1 refers to first private high school's English teacher, A2 refers to second Anatolian high school's English teacher, R6 refers to sixth regular high school's English teacher, and V4 refers to fourth vocational high school's English teacher. In addition, there are also some abbreviations used in the results section to describe administrator included in the study e.g. YP2 refers to second private high school's administrator, AY3 refers to third Anatolian high school's administrator, RY5 refers to fifth regular high school's administrator, and VY4 refers to fourth vocational high school's administrator.

4.1. Observation and Annual/Lesson Plan Findings

The findings of the observations and annual/lesson plans are given separately according to investigated schools under the category of schools types. Then, the summary of them are given about existing resources in the studied schools, used tools / materials, used methods, and applied strategies in observed lessons.

4.1.1 Private High School English Teachers

P1: There was no technology present in the classrooms, but there were various technologies (CD players, videos, computers, smart board, projections, OHP, printers, scanners, etc…) and materials (books, cassettes, CDs, videos, dictionaries, etc…) available in English department rooms. For instance, there were more computers than English teachers and there were many comprehensive English dictionaries for teachers to take to classrooms. In addition, they could have support from schools' support group when they needed it. Teachers bring students to

technologies room when they plan to use some technologies (for example to teach how to use a computer program, teacher goes to computer laboratory with students) as well.

The teacher used pair work, games, brainstorming, note-taking, and discussion in her lessons. She used CD player, handout, and dictionaries in observed lessons and said that she planned to use movie and computer laboratories in the coming lessons to her students. She applied different strategies during her lessons like using intervals for elaborations; creating practice opportunities for her students; controlling students' understanding by eliciting, arranging classroom environments for the technology; providing individual feedback when necessary; and helping students when they had difficulty. It can be said that teacher tried to create a student-centered learning environment. Her aim could be to enable students to practice, to speak, to make students learn new words, to develop their pronunciation, to improve their listening skill, and to encourage students to learn new things. She was giving individual feedback during the break times.

In the examined lesson plans, every step of the teacher had been noted in a detailed way e.g. what tools teacher uses, what students do during lesson, what students gain after the lesson, what strategies teacher applies during the lesson, etc… Teachers wrote about students' performances to the database after each lesson. In annual plans there were objectives, evaluation methods, and methods of teaching for the reading, writing, listening, speaking, vocabulary, and grammar. Some of the evaluation items required use of computer and internet searching like journal writing.

P2: There was no technology present in the classrooms but, there were computer laboratories, CD-DVD players, overhead projectors, portable televisions, classroom with projections, various laboratories, smart classroom, classroom with video for the language education, e-library, self study center, resources center, and theatre hall in the school. They plan to have all their classrooms with a computer connected to the Internet with a projection in next year. In addition, there were officials to help teachers when they needed it. Teachers take to students to

technologies room when they planned to use some technologies (for example to watch a film related the subject of the lesson, they go to video room) as well. In addition, there was a well designed database system which cover many facilities like Mobile-net (allow parents to see the location of the school services in a real time) or Okul-net (allow teachers, parents, administrators the current situation of the students).

The teacher used pair work, games, individual speech, discussion, brainstorming, elaborating, singing, role playing, and acting during observation in her lessons. In addition, she used various tools and materials like, music system, projection system, microphone, posters, flash cards, and dictionaries. She also applied to various teaching strategies like student-centered teaching, using intervals for elaborations, helping when students get stuck, demonstrating requested things, and helping students when the subject was difficult. She may have used these technologies and strategies to enable students to speak, to practice, to get students' attention, to show daily usage of English, to develop their pronunciation, to prepare students to real life, to provide visual help, and to enable them to practice the learned things.

In the examined lesson plans, every step of the teacher had been noted in a detailed way e.g. what tools teacher uses, teacher's activities and durations of them, students' activities, stages of the lessons, etc… In addition, CD, CD player, flash cards, posters, blue tack, and handouts had been written as materials in the examined lesson plans. In the annual plan, there were weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, learning-teaching methods and techniques that would be used in these lessons, tools and materials that would be used in these lessons, and evaluation methods. These topics were written separately in a detailed way. There were pictures, handouts, course book, activity book, cassette player, cassettes, OHP, video, dictionary, flashcards, and Internet in the tools and materials section. Moreover, some of the evaluation items required use of computer and internet searching like writing a formal e-mail asking for information.

P3: There was no technology present in the classrooms but, there were posters, a computer, a scanner, a printer, an OHP, books, various materials, cassettes, CD players, CDs, and films in the English department room. There were computer laboratories, video room, smart board, projections, and computers in the school as well. In addition, they were officials to help teachers when they needed it. Teachers take to students to technologies room when they planned to use some technologies (for example, to watch a film related the subject of the lesson, they go to the video room). They bring some technologies to their classroom themselves like CD player. In addition, there was a well designed database system which covers entering students' notes to databases and allows parents to see their child's notes online.

The teacher used pair work, discussion, individual speech, brainstorming, elaborating, guessing, and role playing during observation in her lessons. In addition, she used handouts, video room, CD player, and songs as tools in her lessons. She applied various teaching strategies like helping when students get stuck, using intervals for elaborations, helping students when subject was difficult, demonstrating requested things, creating practice opportunities for students, and using student-centered teaching methods. Teacher may have used these tools and strategies; to enable them to practice, to speak, to get students' attention, to encourage students, to develop their pronunciation, to create learner-centered environment, to make interesting learning environments, to improve their listening skills, and to show daily usage of English.

In the examined lesson plans, every step of the teacher had been noted in a detailed way e.g. what tools teacher uses, procedures, objectives, materials and tools, stages of the lessons, etc… In addition, CD, CD player, dictionaries, films, and handouts had been written as materials in the examined lesson plans. In the annual plan, there were weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, learning-teaching methods and techniques that would be used in these lessons, and tools and materials that would be used in these lessons were written separately in a detailed way.

Moreover, some of the evaluation items required use of computer and internet searching like the school-wide presentation project competition in the scope of English lessons about air-pollution.

P4: There was a computer with a projection in each classroom. In addition, there were also computer laboratories, CD-DVD players, overhead projectors, televisions, classrooms with projection, and various laboratories in the school. There is a notebook in each group's room. Besides, there were officials to help teachers when they needed it.

The teacher employed pair work, discussion, individual speech, brainstorming, and elaborating in her observed lessons. In addition, projection, computer, posters, and songs were used during these lessons. She also applied to various teaching strategies like creating student-centered teaching environment, using intervals for elaborations, using indirect methods, and arranging environment for technology usage. She may have used these technologies and strategies to get students' attention, to enable students to speak, to show daily usage of English, to develop their pronunciation, to provide visual help, to enable them to write, to enable the learn by doing, to encourage students, to enable them use technologies, and to make learner centered environment.

In the examined annual plan, there were weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, learning-teaching methods and techniques that would be used in these lessons, and tools and materials that would be used in these lessons. These headings were explained separately in a detailed way. There were cassettes, cassette player, activity book, OHP, video, and dictionary in the tools and materials section. Moreover, there were many projects topics which may have required internet researches like preparing touristic magazine.

4.1.2. Anatolian High School English Teachers

A1: There was a computer, a TV directly connected to the computer, VCD player, and cassette player in each classroom of the school. There were also computer laboratories, CD-DVD players, overhead projectors, classrooms with projection, various laboratories, classroom with video for the language education in the school. In teachers' room there were two computers connected to the Internet. In addition, they planned to connect each classroom to the Internet by the beginning of the next year. Moreover, there was a teacher trainer to help school's teachers in their planning stage to use technology and while using technology in their teaching.

The teacher used brainstorming, discussion, elaborating, matching exercises during observation in her lessons. She used various tools like, TV, computer, VCD player, video, pictures, story books, handouts, and dictionaries. She also applied various teaching strategies like using intervals for elaborations, helping when students get stuck, demonstrating requested things, following course book, creating practice opportunities for students, and helping students when the subject was difficult. She may have used these technologies and strategies to get students' attention, to show daily usage of English, to enable them to practice, to develop their pronunciation, to provide visual help, to raise students' audio familiarity with some language items, and to enable them to practice the learned things.

The teacher was not using annual / lesson plans. The schools' English teachers had chosen a course book (they said that they chose it due to the variety of activities in it) and were just following this course book in their teaching. In term project, students may need to search Internet and available resources. They may also use computer applications to prepare them.

A2: There was a TV and a VCD player in the classrooms but, there were computer laboratories, CD-DVD players, cassette players, overhead projectors, classroom with projections, and various laboratories in the school. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' room.

The teacher used pair work, individual speech, discussion, brainstorming, elaborating, guessing, matching exercises, role playing, and acting during observation in her lessons. In addition, she used pictures, video, TV, cassette player, and dictionaries in observed lessons. She also applied to various teaching strategies like student-centered teaching, using intervals for elaborations, helping when students get stuck, demonstrating requested things, providing individual feedback when necessary, using indirect methods, arranging environment for the use of technology, considering students' personalities, and helping students when the subject was difficult. She may have used these technologies and strategies to get students' attention, to enable them to speak, to enable them to practice, to develop their pronunciation, to provide visual help, to encourage them, to improve their listening skills, to make learner centered environment, and to enable them to practice the learned things.

In the examined annual plans, there were weeks of the semester, number of lesson hours in these weeks, topics and functions of these weeks, language areas and structure sets of the topics, language tasks and study skills, vocabulary sets, students' project work, and evaluation. These topics were written separately in a detailed way except the evaluation column, there were only exam dates on it. There were series, documentary film, talk-show, flash cards, interviews, pictures, posters, songs, games, cassette player, cassettes, and video in the annual plans. Moreover, some of the students' project works required computer using and internet searching like preparing a contrast-compare paragraph about a place and describing it's past and present.

A3: There was no technology present in the classrooms but, there were OHPs, a projection, cassette players, a music system, CD-DVD players, and a computer laboratory in the school. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' room.

The teacher used brainstorming, elaborating, matching exercises, and discussion during observation in her lessons. In addition, she used pictures and

cassette player in observed lessons. She also applied some teaching strategies like using intervals for elaborations, helping when students get stuck, following course book, demonstrating requested things, controlling their understanding through applications, and creating practice opportunities for students. She may have used these technologies and strategies to enable students to speak, to practice, to develop their pronunciation, to improve their listening skills, and to enable them to practice the learned things.

In the examined annual plan, there were some topics like months and weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of the weeks, methods and strategies, technologies and materials, and evaluation. These topics were written separately in an un-detailed way. In methods and strategies section there was only group work, pair work, reading, and role playing. In addition, in the tools section for all of the weeks there was only, student's book, work book, cassette, cassette player, and dictionary. Moreover, in the evaluation part there was nothing written.

4.1.3. Regular High School English Teachers

R1: There was no technology present in the classrooms but there were OHPs, projections, classrooms with projections, cassette players, CD-DVD players, computers, computer laboratories, other laboratories, story room, science room, and meeting room in the school. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' room and in all the group rooms. There were also Internet connections in all of the schools' classrooms. They were planning to install a projector and a computer in all classrooms of the school by the beginning of next year. They already had 10 of the necessary systems waiting to be installed in classrooms. Moreover, there was a teacher trainer to help school's teachers in their planning to use technology and use of technology in their teaching.

The teacher used pair work, gaming, brainstorming, individual speech, elaborating, role playing, vocabulary learning, guessing, acting, and drawings

during observation in her lessons. In addition, she used pictures, posters, dictionaries, and cassette player in observed lessons. She also applied some teaching strategies like using intervals for elaborations, helping when students get stuck, following course book, demonstrating requested things, creating student-centered environments, providing individual feedback when necessary, using indirect methods, and creating practice opportunities for students. She may have used these technologies and strategies to enable students to speak, to practice, to develop their pronunciation, to improve their listening skills, to provide visual support, to show daily usage of English, to give more than one stimulant, and to enable them to write.

In the examined annual plan, there were some topics like months and weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, methods and strategies, technologies and materials, and evaluation. These topics were explained separately with only one sentence, except the heading of evaluation as there were only exam dates on it. In methods and strategies section there were games, pair works, peer correction, question-answer, demonstration, repetition, etc… In addition, in the tools section there were authentic materials, dictionaries, and cassettes.

R2: There was no technology present in the classrooms but, there were OHPs, projections, classrooms with projections, cassette players, CD-DVD players, computers, computer laboratories, and other laboratories in the school. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' room.

The teacher used elaborating, role playing, guessing, matching exercises, and note-taking during observation in her lessons. In addition, she used pictures, posters, dictionaries, story books, and cassette player in observed lessons. She also applied some teaching strategies like using intervals for elaborations, helping when students get stuck, following course book, demonstrating requested things, providing individual feedback when necessary, and creating practice opportunities for students. She may have used these technologies and strategies to enable students

to speak, to practice, to develop their pronunciation, to improve their listening skills, to provide visual support, to get their attention, to make learner centered environment, and to enable them to practice the learned things.

In the examined annual plan, there were some topics like months and weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, methods and strategies, technologies and materials, and evaluation. These topics were written separately in an un-detailed way. In methods and strategies section there were only group work, question-answer, demonstration, communicative approach, and repetition. In addition, in the tools section for all of the weeks there was only student's book, work book, teacher's book, dictionaries, and cassettes. Moreover, in the evaluation part there was nothing written, except the date of the exams.

R3: There was no technology present in the classrooms but there were OHPs, projections, classrooms with projections, cassette players, CD-DVD players, computers, and computer laboratories in the school. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' rooms.

The teacher used elaborating, guessing, matching exercises, drawing, individual speech, group work, discussion, brainstorming, and note-taking during observation in her lessons. In addition, she used pictures, dictionaries, and cassette player in observed lessons. She also applied some teaching strategies like using intervals for elaborations, helping students when they get stuck, following course book, demonstrating requested things, creating practice opportunities for students, and creating student-centered teaching environment. She may have used these technologies and strategies to enable students to practice, to develop their pronunciation, to improve their listening skills, to provide visual support, and to make learner centered environment.

In the examined annual plan, there were some topics like months of the semester, number of lesson hours in these weeks, objectives of these weeks,

subjects of these weeks, methods and strategies, technologies and materials, and evaluation. These topics were written separately in an un-detailed way. In methods and strategies section there were only communicative-approach, demonstration, dictation, listening-reading, repetition, and speaking-writing. In addition, in the tools section for all of the weeks there were only book, dictionaries, tapes (audio-video), and pictures and maps. Moreover, in the evaluation part there was nothing written.

R4: There was no technology present in the classrooms but there were two computer laboratories, a classroom with projection in the school. Moreover, there was not even a computer connected to the Internet in teachers' room. Indeed, the school had severe problems regarding its physical conditions e.g. some classrooms required immediate maintenance. In addition, teachers were connecting to Internet in the chess club room.

The teacher used elaborating, matching exercises, guessing, pair work, individual speech, discussion, and note-taking during observation in her lessons. In addition, she used dictionaries and course book in observed lessons. She also applied some teaching strategies like helping students when subject was difficult, following course book, creating practice opportunities for students, and providing individual feedback when necessary. She may have used these strategies to enable students to practice, to develop their pronunciation, to improve their listening skills, and to enable them to write.

In the examined annual plan, there were some topics like months and weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, methods and strategies, technologies and materials, and evaluation. These topics were written separately in an un-detailed way. In methods and strategies section there were communicative-approach, demonstration, dictation, listening, reading, repetition, speaking, pair work, group work, and writing. In addition, in the tools section for all of the weeks there were only books, dictionaries, and blackboard. Moreover, in the evaluation part there was nothing written.

R5: There was no technology present in the classrooms but there were two computer laboratories, a portable computer and a projection, a classroom with projection, TVs, CD-DVD players in the school. Moreover, there were computers connected to the Internet in teachers' room and in schools' library. Indeed, the school had severe problems regarding its physical conditions e.g. the observed class size were around 50.

The teacher used pair work, elaborating, guessing, role playing, matching exercises, and note-taking during observation in her lessons. In addition, she used only course book in observed lessons as teaching material. She also applied some teaching strategies like helping students when subject was difficult, following course book, demonstrating requested things, creating practice opportunities for students, and providing individual feedback when necessary. She may have applied these strategies to enable students to practice, to develop their pronunciation, to improve their listening skills, and to enable them to write.

The teacher was not using lesson and annual plans. She was just following course book and teacher's book.

R6: There was no technology present in the classrooms but, there were a computer laboratory, a classroom with projection, TVs, CD-DVD players in the school. Moreover, there were computers connected to the Internet in teachers' room and in the chess room. Indeed, the school had severe problems regarding its physical conditions e.g. some classrooms required immediate maintenance.

The teacher used elaborating, guessing, dictating, filling the blanks, matching exercises, and note-taking during observation in her lessons. In addition, she used only course book in observed lessons as teaching material. She also applied some teaching strategies like helping students when subject was difficult, following course book, demonstrating requested things, creating practice opportunities for students, and providing individual feedback when necessary. She might have used these strategies to enable students to practice, to develop their pronunciation, to improve their listening, and to enable them to write.

In the examined annual plan, there were some topics like months and weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, methods and strategies, technologies and materials, and evaluation. These topics were written separately in an un-detailed way. In all of the methods and strategies section there were communicative-approach, eclectic method, question/answer, group/pair work, and games. In addition, in the tools section for all of the weeks there were only handouts, whiteboard, student book, workbook, and cassettes. Moreover, in the evaluation part there was nothing written, except the exam dates.

4.1.4. Vocational High School English Teachers

V1: There was no technology present in the classrooms but there were OHPs, projections, classrooms with projections, cassette players, CD-DVD players, other laboratories, computer laboratories, and meeting room in the school. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' room and in all group rooms.

The teacher used pair work, dictation, elaborating, vocabulary learning, paraphrasing, summarizing, matching exercises, and drawings during observation in her lessons. In addition, she used pictures and course book in observed lessons. She also applied some teaching strategies like using intervals for elaborations, helping when students get stuck, following course book, demonstrating requested things, and creating practice opportunities for students. She may have used these technologies and strategies to enable students to speak, to practice, to develop their pronunciation, to improve their listening, and to enable them learn by doing.

In the examined lesson plans, what teacher was doing during the lesson was written in a detailed way. There were books and dictionaries as tools and materials. In addition, there were also methods and strategies planned to be used in lesson. In the annual plan, there were weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, learning-teaching

methods and techniques that would be used in these lessons, and tools and materials that would be used in these lessons were written separately. In methods and strategies section there were eclectic method, question and answer, communicative approach, role playing, direct method, and demonstration. In addition, in the tools section there were various books and dictionaries. She planned to use video and listening activities at the end of the semester as, she was thinking that students' level were too low.

V2: There was no technology present in the classrooms but there were OHPs, projections, classrooms with projections, cassette players, CD-DVD players, and computer laboratories. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' rooms.

The teacher used individual speech, discussion, elaborating, vocabulary learning, paraphrasing, summarizing, note-taking, guessing, matching exercises, story telling, and drawings during observation in her lessons. In addition, she used pictures and the course book in observed lessons. She also applied some teaching strategies like using intervals for elaborations, helping when students get stuck, following course book, demonstrating requested things, controlling their understandings through applications, and creating practice opportunities for students. She may have used these technologies and strategies to enable students to speak, to practice, to develop their pronunciation, to improve their listening skills, to enable them to write, and to enable them learn by doing.

In the examined lesson plans, what teacher was doing during the lesson had been written in a detailed way. There were books and dictionaries as tools and materials. In addition, there were also methods and strategies planned to be used in lessons. In the annual plan, there were weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, learning-teaching methods and techniques that would be used in these lessons, and tools and materials that would be used in these lessons were written separately. In methods and strategies section there were speaking, question and answer, pronunciation,

vocabulary learning, repetition, and writing. In addition, in the tools section there were various books and dictionaries. There was nothing written on evaluation section, except the date of exams. She had used portable projection once but, she had lost too much time and she had become too tired.

V3: There was no technology present in the classrooms but there were OHPs, projections, classrooms with projections, cassette players, CD-DVD players, and computer laboratories. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' rooms. In addition, there was severe shortage of available classrooms in the school. Moreover, having too many students was also considered a problem in this school.

The teacher used pair work, matching exercises, elaborating, vocabulary learning, summarizing, note-taking, guessing, and drawings during observation in her lessons. In addition, she used course books in observed lessons. She also applied some teaching strategies like helping when students get stuck, following course book, demonstrating requested things, controlling their understandings through applications, and creating practice opportunities for students. She may have used these technologies and strategies to enable students to speak, to practice, to develop their pronunciation, to improve their listening skills, to enable them to write, and to enable them learn by doing.

In the annual plan, there were weeks of the semester, number of lesson hours in these weeks, objectives of these weeks, subjects of these weeks, learning-teaching methods and techniques that would be used in these lessons, and tools and materials that would be used in these lessons were written separately. In methods and strategies section there were same things for all of the lessons and weeks. In addition, in the tools section there were various books, cassette players, cassettes, listening devices, video, puzzles, and dictionary as tools and materials section. There was nothing written on evaluation section, except the date of exams.

V4: There was no technology present in the classrooms but, there were OHPs, projections, classrooms with projections, cassette players, CD-DVD players, and computer laboratories. Teachers take to portable technologies to their classrooms when they planned to use any of them. There were also computers connected to the internet in teachers' rooms.

The teacher used elaborating, vocabulary learning, summarizing, note-taking, matching exercises, guessing, and drawing during observation in her lessons. In addition, she only used course books in observed lessons. She also applied some teaching strategies like helping when students get stuck, following course book, demonstrating requested things, controlling their understandings through applications, and creating practice opportunities for students. She may used these technologies and strategies to enable students to speak, to practice, to develop their pronunciation, to improve their listening, to enable them to write, and to enable them learn by doing.

In the examined lesson plans, there was only the subject of the course in a detailed way including drawings, formulas, samples, and schemas about the topic.

4.1.5. Summary of observations and annual / lesson plans

The summary of the observations are given about existing materials in the schools, used tools / materials, used methods, and applied strategies in observed lessons according to school types. Table 4.1 shows the existing resources and their frequencies in the schools according to the type of the schools. All of the schools have at least one computer laboratory and almost all of the schools have at least one CD-DVD player or cassette player, computer in the teachers' room, and classroom with a computer and projection. Moreover, as shown in the Table 4.1 private high schools have far more resources than public high schools.

Table 4. 1: Existing Resources in the Studied Schools

Resources / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
Computer Laboratories	4	3	6	4	17
CD-DVD player / Cassette player	4	3	5	4	16
Computers in the teachers room	4	3	5	4	16
Classroom with a computer and projection	4	3	5	4	16
Portable projection	4	1	3	4	12
OHP	4	3	3	2	12
Video player/ TV	4	2	2	0	8
Video cassettes / cassettes / CDs	4	2	1	0	7
Books / dictionaries / posters	4	1	1	0	6
Technical Support group	4	1	1	0	6
Others (5 items)	7	0	0	0	7

In addition, Table 4.2 shows the frequency of teaching methods, applied by the studied English teachers during the observed lessons, according to the type of schools. As shown in the table, there were only slight differences among the schools types in their applied teaching methods.

Table 4. 2: The Frequency of Applied Teaching Methods

Methods / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
Elaborating	3	3	6	4	16
Matching	0	3	5	4	12
Singing / acting / role playing / drawing	2	1	4	4	11
Pair work / group work	3	1	4	2	10
Guessing	1	1	5	3	10
Note-taking	1	0	5	3	9
Brainstorming	3	3	2	0	8
Discussion	2	3	2	1	8
Individual speech	2	1	3	1	7
Games	2	0	1	0	3

Moreover, Table 4.3 shows the frequency of tools, used by studied English teachers during observed lessons, according to the school types. Private and Anatolian high school English teachers use far more tools and materials than regular and vocational high school English teachers. Indeed, nothing was used except course books and pictures by vocational high school English teachers in their observed lessons.

Table 4. 3: The Frequency of Used Tools in Observed Lessons

Tools / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
Posters / pictures	2	3	3	2	10
CD player / Cassette player	3	3	3	0	9
Dictionaries	2	2	4	0	8
Movies	2	2	0	0	4
Handouts	2	1	1	0	4
Songs	3	0	0	0	3
TV	1	2	0	0	3
Flash cards	1	0	1	0	2
Computer	1	1	0	0	2
Story books	0	1	1	0	2
Computer laboratories	1	0	0	0	1
Projection system	1	0	0	0	1

Moreover, Table 4.4 shows the frequency of strategies, applied by studied English teachers during observed lessons, according to the school types. There were slight differences on the applied strategies among the school types. None of the studied private high schools were just following the course book during their lessons but, almost all of the public high school teachers were following course book in their teaching period.

Table 4. 4: The Frequency of Applied Strategies

Strategies / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
Creating practice opportunities for students	2	2	6	4	14
Demonstrating wanted thing	2	3	4	4	13
Intervals for elaborations	4	3	3	2	12
Following course book	0	2	6	4	12
Helping students when they get stuck	2	3	3	3	11
Helping students when the subject is difficult	3	2	3	1	9
Providing individual feedback when necessary	1	1	5	0	7
Creating a student-centered environment	4	1	2	0	7
Controlling students understanding by eliciting	1	1	0	3	5
Others (3 items)	1	3	1	0	5

Finally, the content of the columns of the private high schools teacher's annual plans were changing according to the objectives and subjects of the course but the content of the columns were constant in public high schools teachers' annual plans except date, objectives, and subjects columns.

4.2. Perceived technology competency levels

To understand teachers' understanding of technology operations and concepts, NETS for teachers "Technology Operations and Concepts" indicators were investigated on teachers. Table 4.5 shows the result of studied the teachers' averages according to the type of the schools.

Table 4. 5: Teachers Perceived Technology Competency Levels

Resources / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
1. Demonstrate introductory knowledge, skills, and understanding of concepts related to technology *	4	2,3	3	3,3	3,2
2. Demonstrate continuous growth in technology knowledge and skills to stay abreast of current and emerging technologies **	3	1,7	1,8	2,5	2,2

* used 5 point scale; 1 refers none, 2 refers little, 3 refers average, 4 refers good, 5 refers excellent
** used 3 point scale; 1 refers none, 2 refers average, and 3 refers good.
N= Number of participants

For the first indicator, ISTE's "General Preparation Performance Profile Test" indicators (Appendix E) were used. According to teacher responses a number is assigned to teachers from one to five (none, little, average, good, excellent). For the second indicator, according to teacher responses a number is assigned from one to three (none, average, and good). Other than private high school English teachers the investigated high school English teachers defined their levels in both indicators as average. When schools are compared, private high schools teachers' perceived competency level is higher than that of public high school English teachers (Anatolian, regular, and vocational). At the same time, private high school English teachers are more eager to learn things on current and emerging technologies.

When we compare school types, private high school English teachers define their introductory knowledge, skills, and understanding of concepts related to technology level as good. Likewise, all of the private high school English teachers stated that they seek to do learn things related to technologies. Although, there seems to be slight differences between public high school English teachers, the differences are among teachers not the school types. For example, there is teacher in

regular high school she defines her technology knowledge as excellent, but another regular teacher defines her technology knowledge as none.

4.2.1 Classification According to CEO Forum

When the teachers were categorized according to CEO forum classification, private high school English teachers were mainly on the appropriation stage (level four). Only one teacher among the investigated teachers working in a private high school was at the invention stage (level 5). In the interview, she (P1) stated that "

> For example, I had students make t-shirt design with a character in a book. But, they got printout and transfer to a t-shirt. So that drawing, computer, technology, and English are all together.
>
> …kitaptaki bir karakterle ilgili bir t-şört dizaynı yaptırdım mesela. Ama bunu bilgisayardan da bir çıktı alıp oradaki çalışmayı t-şört'e de aktarabildiler, böylece resim, bilgisayar, teknoloji, İngilizce hep birlikte.

On the other hand, public (Anatolian, regular, and vocational) high school English teachers were mainly on the adoption stage (level 2). Indeed, two regular high school English teachers were still in the entry stage (level 1), only one vocational high school English teacher was in the adaptation stage(level 3), and all of the other public high school English teachers are in the adoption stage (level 2). For instance, a regular high school English teacher in the entry level does not use an e-mail account. Moreover, in the interview she (R1) stated that "

> I do not have much information about technology, for that reason I do not know whether there is a direct reflection from computer.
>
> Ama ben böyle teknolojiyi çok bilmediğim için acaba bilgisayardan direkt yansıtarak oynatma var mı bilmiyorum".

4.3. Technology in Planning

To examine teachers' technology usage in their "planning and designing learning environments and experiences" NETS-T indicators were used. In the Table 4.6, the number of teachers who posses the related indicators is given according to the each indicator. While all of the private high school English teachers possessed

the all related indicators, not all public high school English teachers possessed the second indicator (apply current research on teaching and learning with technology when planning learning environments and experiences). Additionally, one of the vocational high school teachers did not posses the first indicator.

Table 4. 6: Technology in Planning

NETS Indicators / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
1. Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.	4	3	6	3	16
2. Apply current research on teaching and learning with technology when planning learning environments and experiences.	4	2	3	2	11
3 Identify and locate technology resources and evaluate them for accuracy and suitability.	4	3	6	4	17
4 Plan for the management of technology resources within the context of learning activities.	4	3	6	4	17
5 Plan strategies to manage student learning in a technology-enhanced environment.	4	3	6	4	17

4.3.1. Considerations for Making Decisions in Technology Usage

Teachers mentioned various factors which affect their decisions to use technologies in their classrooms. Table 4.7 shows what the teachers consider in technology knowledge in their classroom according to the types of the schools.

Table 4. 7: Teacher's Considerations for Making Decisions in Technology Usage

Themes / Schools	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Suitability of the students' level	4	3	5	4	16
· Subjects of the courses	4	3	3	2	12
· Appropriate to the context	3	3	2	3	11
· Level of students' concern	3	1	3	3	10
· Suitable to the intended aims	3	2	3	1	9
· Readiness level of the students	3	2	1	1	7
· Suitability of the classroom environment	3	0	2	1	6
· Applicability	3	1	1	1	6
· Be able to use various materials	3	1	0	1	5
· Students needs	2	1	2	0	5
· Currency of materials	2	1	2	0	5
· Multiple intelligence	2	1	1	1	5
· Other (2 items)	3	0	0	0	3

For example, 16 of 17 teachers stressed that they look at the suitability of the students' level, e.g. a teacher (A1) stated:

> I always check whether the materials I have are suitable or not. The level should be appropriate and it should not include a lot of not well known vocabulary. So the vocabulary level should also be appropriate.
>
> Bir şey bulduğumda uygun mu, değil mi diye mutlaka bakarım. Seviyeye uygun olmalı, çok fazla yabancı kelime içermemeli. Yani seviyelerine o yönden de uymalı.

In addition, this teacher used cartoons in one of the observed lessons. There were structurally simple sentences in the dialogues. The speed of the speech samples was slow enough for the students to follow it easily.

Moreover, contents of the courses were stated by 12 teachers as another choosing factor. For example a teacher (A2) to emphasize the importance of the content of the course while choosing the educational material stated;

> I taught tag questions after that my students watched Oliver Twist. Oliver Twist includes a lot of examples for tag questions. So, watching Oliver Twist helped students to raise their awareness regarding tag questions.

> Mesela çocuklara tag questions öğrettim ben ve tag questiondan hemen sonra Oliver Twist'i izledik. Oliver Twist'te tag questions çok sık geçiyor. Çocuklar onu hemen orda algıladılar işte.

This teacher's video session was observed and it was seen that the teacher elaborated on the usage of tag questions with the students after watching the video. When, how, why, in which context, and for what purpose tag questions are used in the film was analyzed by the teacher and the students.

In addition, 11 teachers also consider appropriateness of the technologies to the context, e.g. a teacher (P2) stated:

> We usually try to choose movies which reflect English culture through life styles and English actors/actresses. We are trying to choose such movies.
>
> İngiliz kültürüne ait oyuncular var onları izlettirebiliyoruz. Sonuçta İngiltere'de çekilmiş filmler olabiliyor. Oradaki mesela şehir yapısını görüyor çocuk romantic love culture'i görüyor. Bu tip filmleri seçmeye çalışıyoruz.

Furthermore, 10 teachers stated that they consider level of students' interests. For example a teacher (A1) to express the suitability of the students' interest stated:

> Material should appeal to the interest of the students. Therefore I try to choose materials which draw their attention.
>
> Bir de onun ilgi ve isteklerini de karşılamalı. Yani kalkıp da ekonomi ile ilgili bir şey getirsem hiçbir şekilde, hiçbirinin ilgisini çekmez. Daha çok onların ilgilenebileceği konular getirirseniz, daha çok hoşlarına gidiyor.

Another teacher (V4) had requested a term project presentation which asked the students which profession they would like to choose in the future. It included interviewing a professional from that field and presenting this in class. She also asked for a report. This assignment show that the teacher takes the students' level of interest into consideration.

In addition, nine teachers expressed that they look at the suitability to the intended aims while choosing technologies to use in their classrooms e.g. a teacher (R1) to emphasize suitability to the aims stated:

> The material should fit to the objectives of the lesson.
>
> Öncelikle gerçekten dersin amacına hizmet ediyor mu? Benim öğretmek istediğim konu ile alakalı mı?

Besides, teachers not only considered the readiness level of the students, stated by seven teachers, but also considered the suitability of the classroom environment, stated by six teachers. For instance a teacher (A2) stated:

> We are reaching the end the semester. I have my students watch movies more often, that is because they got mature and their English language level increased.
>
> Şimdi öğrencilerimiz senenin sonuna yaklaşıyor. O yüzden ben film olayını biraz arttırdım. Arttırdım çünkü hem daha olgunlar hem de İngilizce anlayabilecek kadar ileri seviyedeler. Hazır bulunuşluk seviyeleri önemli yani, bu noktada filme yöneliyorum.

She also arranged the design of the classroom while watching a film on TV. She placed the TV in the center in front of the class and rearranged students' seating in terms of their height (i.e., short students in the front; taller students in the back).

Applicability of technologies was another criterion considered to decide whether to use in the classrooms and stated by six teachers as well. For example a teacher (V3) stated:

> I consider the applicability of the material in computer environment, most of the time we can not apply them as a result of unsuitable conditions.
>
> Materyallerin yapılabilirliğine bakıyorum, ne kadar uygulayabilirim, hani bilgisayar ortamında gösterebilme imkânım nedir. Çoğu zamanda olumsuz şartlar yüzünden yapamıyorsun.

Additionally, ability to use various materials, students' needs, and currency of materials were stated five times by teachers as a factor in deciding to use technologies. To express the importance of currency of materials a teacher (A1) stated:

> The material should be updated. Whatever the material, it should reflect the present in order to get the students' attention.

> Kriterimiz daha güncel olsun, mesela kişiler filan bazen çok eski oluyor. Mesela bir filmden örnek veriyor, okuma parçası. Onun daha güncel olmasını istiyoruz.

Besides, five teachers stated that they take multiple-intelligences into consideration while deciding to use technologies in their classrooms. Furthermore, only two teachers stated that they consider the number of students in classrooms and one teacher stated that students' expectations were considered while choosing technologies to use in classrooms.

When school types were compared, private high school English teachers consider more variables while choosing technologies for their lessons compared with public high schools.

4.3.2. Sources of materials

Teachers mentioned about various resources to find material to use technology in their classroom environments. Table 4.8 shows teachers' sources of materials in their classroom according to the type of schools.

Table 4. 8: Sources of Materials Used in Classrooms

Themes / Schools	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Internet resources	4	3	3	4	14
· Book Publishers	1	1	3	3	8
· School library	2	0	1	1	4
· Students' materials	0	2	1	1	4
· Books homepages	3	0	0	0	3
· Others (3 items)	3	0	0	1	4

For example, 14 of 17 teachers expressed that they may look at the Internet resources to be able to find suitable materials for their students. Moreover, eight teachers expressed that they get benefits from the publishers of the school English course book in finding materials for their own courses. In addition, school library and student owned materials were stated four times as resources of materials. Moreover, school course books' homepages was mentioned as material resources by three teachers, e.g. one teacher (P2) stated:

> There are some useful sites in the course book's home page. For example, some vocabulary games about vocabulary, or grammar games regarding grammar are some of the activities we can find in these sites. There is nothing related to listening and speaking skills, just reading, grammar, and vocabulary exercises. These sites provide such activities for each unit in the book.
>
> Kitabın kendine ait siteler var, çok güzel alıştırmaların olduğu. Mesela kelime ile ilgili, kelime oyunları veya okuma ile ilgili okuma oyunları, gramerle ilgili. Dinleme yok konuşma da yok. Okuma, gramer ve kelime alıştırmaları var. Kitabın işlediği konuların aynısının ünite ünite uygulandığı bir sistem.

Another teacher (A1) used a video that came with the course book.

Besides, teachers' previous materials were stated as material resources for teachers by two teachers, e.g. a teacher stated (P3):

> I examine all materials I have. If there some suitable materials from the past such as songs or video clips I try to make use of them.
>
> Kullanabileceğim elimde ne varsa hepsine bakıyorum. Geçmişteki materyalleri gözden geçiriyorum, şarkılar varsa, video klip varsa izletmeye çalışıyorum öğrencilere.

Furthermore, university library and school's resource center were seen as material resources by one teacher.

When material sources were analyzed according to the school types, private high school English teachers mentioned more sources of materials than public high school English teachers.

4.4. Technology Usage

To understand teachers technology usage NETS-T "Teaching, Learning, and the Curriculum" indicators were used. The results are shown on the Table 4.9. It seems: on the "facilitating technology-enhanced experiences that address content standards and student technology standards" and "applying technology to develop students' higher order skills and creativity" indicators some teachers have problems.

Contrastingly, it seems that on the other two indicators majority of the teachers do not have problems.

Table 4. 9: Technology Usage

NETS Indicators / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
1. Facilitate technology-enhanced experiences that address content standards and student technology standards.	3	3	3	2	11
2. Use technology to support learner-centered strategies that address the diverse needs of students.	4	3	5	4	16
3. Apply technology to develop students' higher order skills and creativity.	4	1	2	0	7
4. Manage student learning activities in a technology-enhanced environment.	4	3	4	4	15

Table 4.9 also shows that except one private high school English teacher for the first indicator, private high school English teachers do not have problems in NETS-T's "teaching, learning, and the curriculum" indicators. Similarly, except "applying technology to develop students' higher order skills and creativity" indicator, Anatolian high school English teachers do not have problems on NETS-T "Teaching, Learning, and the Curriculum" indicators. On the other hand, it seems that some of the vocational high school English teachers have problems on "facilitating technology-enhanced experiences that address content standards and student technology standards" and "applying technology to develop students' higher order skills and creativity" indicators. Finally, the findings indicated that not all regular high school English teachers use technology in accordance with the four indicators.

4.4.2. Purpose of using technologies

Teachers mentioned that technologies could be used for various purposes. Table 4.10 shows teachers' purposes of using technologies and frequencies of them according to the school types.

Table 4. 10: Purposes of Using Technologies

Purpose / Schools	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Visual help	3	3	5	4	15
· Get attention	4	3	5	2	14
· To make learner centered environment	3	3	5	3	14
· To enable them to speak	2	3	5	4	14
· To give more than one stimulant	4	2	3	3	12
· To enable them to practice	4	2	3	1	10
· To improve their listening	2	1	3	2	8
· To encourage students	3	3	1	0	7
· To develop their pronunciation	0	2	3	2	7
· To show daily usage of English	0	1	2	4	7
· To have audio familiarity	2	1	3	1	7
· To enable them use technologies	3	1	1	1	6
· To enable them learn by doing	4	1	0	1	6
· To make interesting environment	2	2	1	1	6
· To prepare them to real life	3	0	2	0	5
· To enable them to write	1	1	1	2	5
· To make learn new words	3	0	2	0	5
· Others (3 items)	2	3	3	0	8

For example, 15 of 17 teachers said that technologies could be used for visual support for the lesson. Moreover, 14 teachers said that technology may be used to get students' attention, to make learner centered environment, and to enable students to speak English. For example, a teacher (R3) to express getting students' attention stated:

> Oppositions draw students' attention a lot. For example I drew a fat and thin man and reflected it through OHP, it appealed to students who usually do not pay any attention to any material.
>
> Öğrencinin böyle şeyler daha çok dikkatini çekiyor mesela ben zıtlıklar, uzun-kısa işte, şişman-zayıf falan zıtlıkları mesela resimlere şeye çizdim o tepegözün şeyi var ya oraya mesela yazdım. İşte iki sayfa falan oldu onları yansıttım ve hiç dikkatini çekmeyen çocuklar böyle yani o kadar dikkatini çekiyor ki çocukların.

Another teacher (V3) stated about learner centered environment:

> I try to keep the students active in the learning process. For example, I had them watch the news and translate.

> Bu materyalleri çocuklar kendi olayın içine girsin, kendi üretince daha kıymetli oluyor, bizim verdiğimiz değil de. Mesela onlar haberleri izleyip her gün İngilizce çeviri yaparlardı.

In order to encourage students to speak English, one teacher (A2) explained some professions' responsibilities and duties. Then, she asked the students to guess the profession. After this, the students guessed the profession and explained what these people do by using the pre-stated structure (have + job + do).

In addition, in one of the private high school teacher's (P1) lesson plan one of the aims of the lesson was "have spoken about the topic and have expressed their ideas".

In addition, 12 teachers mentioned about using technologies to give more than one stimulant to the students. For instance, a teacher (A2) stated:

> To read about something, to watch it, to hear something related to it is the best for students.
>
> Şu en iyisidir, kitabını okuyup dinleyebilmek, filmde konuşmak hatta onu birde handout vermek en güzel sistem bence.

Additionally, 10 teachers expressed that technologies could be used to enable students to practice what the students have learned. Also according to eight teachers, technologies could be used to improve students listening. Besides, seven teachers mentioned about using technologies to encourage students, to develop their pronunciation, to show daily usage of English, to have audio familiarity with some language items. To express the need to encourage a student a teacher (A1) stated:

> I try to encourage them verbally by telling them that they can manage it. I provide them with some challenging materials, though; they manage it and they realize that they can do it.
>
> İşte senin başarabileceğini düşünüyorum, niye sen böyle yapıyorsun ki gibi, yani biraz daha gayret etmelerini sağlıyorum. Mesela aralara bilmedikleri kelimeler yazıyorum, sıkıştırıyorum, ondan sonra bakıyorum cevap geliyor. Demek ki o arada bakıyorlar.

Another teacher (A1) had students buy a story book. They exchanged the books after they read and took quizzes about them. Each student read a different story book in a two week period. The teacher took notes about who read what in the observed lesson. Then, she gave a different question sheet prepared separately about each story book and asked the students to answer the question sheets about the story book they had read. That way she may have aimed to enable students to practice what they have learned.

She also asked the students to watch episode one of the course book video and write a question about the video (cartoon). And then she asked the students to answer other students' questions. Before starting the cartoon, she warned the students to watch carefully to be able to answer their friends' questions. She may have planned to increase students' understanding of the daily usage of English.

In addition, one teacher (P1) wrote in her lesson plan the following in an attempt to help students practice what they have learned:

> Students listen to the CD. They underline the words they do not know. They work in pairs and find the definition of the words. Teacher checks the words so that they do not focus on the same words. Students teach the words they have learnt to their peers.

The same teacher (P1) planned the following listening activity:

> Listening: Individual work. Teacher distributes a handout. Students listen to the text. They take notes and answer questions. If there is time, they can listen again and double check their answers.

In another teacher's (P2) lesson plan the aim was to highlight the daily usage of English:

> By the end of this lesson, students will be able to practice practical/social English, used for buying English, how to get somewhere, etc.

For example a teacher (R6) emphasized that technology should be used to develop students' pronunciation,

A native speaker pronunciation is different from mine, so hearing a native speaker helps them to pronounce accurately.

Benim bir şeyi okumamla ana dili İngilizce olan birinin okuması arasında fark vardır illaki. Bu bakımdan kelimeleri doğru telaffuz etmeleri bakımından fayda sağlar.

Another teacher (V2) to give importance to daily usage of English stated:

We attach importance to dialogues because we consider teaching English which can be used in daily life as important.

Diyaloglara önem veriyoruz, çünkü İngilizceyi günlük yaşamda kullanmaya yönelik öğretime önem veriyoruz. Karşılıklı diyaloglar bulabilirdim konu ile ilgili.

Furthermore, six teachers proposed to use technologies to enable students use technologies, to enable them learn by doing, and to make interesting environment. For example, to emphasize enabling students use technologies a teacher (P3) stated:

At the beginning, there were some students who were against the use of PowerPoint because they thought it was difficult, but soon most of them learned how to use it by the help of their teachers or family members. So, they made use of technology.

Powerpoint ne ya diye başta karşı çıkan öğrenciler oldu mesela, hocam işte biz kâğıda yazıp getirsek olmaz mı? Mesela bu ödev sayesinde bunu kullanmayı öğrenen öğrenciler var. Birbirlerine sordular, bize gelip sordular, abisi ablası olan var onlara sordular. Böylece teknolojiden faydalanmış oldular, kullanmayı öğrendiler.

Meanwhile, five of the teachers stated that technologies could be used to prepare students to real life and to enable them to write in English. In addition, five teachers expressed that technologies could be used to make students learn new English words. Four teachers also stated that they use technologies to be able to use their time effectively. Three teachers stated that technologies could be used to make students lifelong learners as well. For example, a teacher (P1) to emphasize the importance of lifelong learning stated:

> We are teaching them things from which they can benefit through their life. That is one of the most important targets so that they have a research spirit and become a lifelong learner.
>
> Bence öğrencilerimizin hayat boyu kullanacakları çok güzel şeyler katıyoruz onlara. Araştırmacı ve lifelong learner olmaları tabii ki en tepedeki hedeflerden biri.

Another teacher (R2) played tapes during observation. Then, she asked the students to summarize the dialogue they listened to. She gave them some time to finish their summaries. After that, the students read their summaries and the teacher asked questions to elaborate on their summaries. She also gave important clues for doing a good summary. That way, teacher may have tried to develop the students writing abilities.

In addition in a teacher's (P2) lesson plan there was an explanation about how to improve students' listening and writing skills:

> Presentation: demonstrate the activity. Play the CD. Students listen to the sound effects and write sentences about what they hear.

Only one teacher stated that technologies could be used to be able give feedback outside the lesson hours.

"To develop students' pronunciations" and "to show daily usage of English" were stated by only public high school English teachers as purpose of using technologies. On the contrary, "To enable students learn by doing" were stated by all of the private high school English teachers and only two of the 13 public high school English teachers.

4.4.3. Strategies of usage

Technology usage in classrooms requires strategies to be able get benefits from them. Teachers included in the study mentioned about various strategies while using technologies in classrooms. Table 4.11 shows teachers' usage of strategies and their frequencies according to school types.

Table 4. 11: Strategies According to School Types

Strategy / School	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Student-centered	3	3	4	3	13
· Follow course book	4	2	4	2	12
· Use intervals for elaborations	3	2	3	2	10
· Creates practice opportunities for students	3	2	2	1	8
· Use indirect methods	2	3	1	1	7
· Make preparation then letting students perform	2	1	0	2	5
· Multiple intelligence	2	1	1	1	5
· Control their understanding through applications	1	2	1	1	5
· Use the available sources	3	1	0	0	4
· Demonstrate requested things	2	0	2	0	4
· Others (9 items)	8	5	6	4	23

For example, 13 of 17 teachers stated that while using technologies they try to create a student-centered environment. To give an example a teacher (P1) stated:

> I try to interfere only when necessary. Otherwise, it would be against the principles of a student-centered lesson.
>
> Onlar yapsın ben gerekli yerde müdahale edeyim istiyorum. Ben çünkü benim sadece teknoloji kullanımında değil, derslerimde de student-centered olmasına son derece özen gösteriyorum.

Another teacher (R6) in the observed lesson, assigned reported speech as a subject to a group of students (four) and asked them to share the parts of the reported speech and explain it to the whole class in the next lesson.

Although most of the teachers emphasized the importance of a student-centered teaching environment, it was witnessed that most of them were teaching grammar explicitly in lecture form.

Besides, 12 teachers expressed that they follow course books. For example a teacher (R4) stated:

> We had a video book and the separate listening class. It is already determined when to exploit the material. We have the program and we do not need to do anything extra.

> Video kitabımız vardı, listening ayrı ders olarak vardı. Onları zaten neyi nerede yapacağımız belli. Program geliyor, ekstra bir şey yapmanıza gerek yok.

Similarly most of the observed teachers were following the course books in their teaching; they were using course books' samples, structures, dialogues, pictures, or cassettes. In addition, they were doing exercises from the study and work book.

Moreover, 10 of the teachers stated that they use intervals for elaborations while using technologies. For instance, a teacher (P4) stated:

> Sometimes when I have the students watch movie I apply some predictions activities. I pause and ask the students what may happen next.
>
> Ama buradaki amaç mesela sadece öyle kuru kuruya film izletmiyoruz yani mesela bazı yerlerinde duruyorum. Şimdi bundan sonra ne olacak? Bazen mesela görüntüyü kapatıyorum sadece ses dinletiyorum. Sizce ne oldu? Ya da mesela görüntüyü açıp sesi kapatıyorum.

Another teacher (A1) explained conditional clauses type one and wrote the formula on the board. Then, she gave sample sentences about it and asked the students to tell the opposite of the given sentences. Finally, she wrote students' opposite sample sentences on the blackboard and asked questions for elaboration.

Furthermore, eight of the teachers mentioned the importance of creating practice opportunities for students. In addition, using indirect methods was proposed by seven teachers as a strategy in technology usage, e.g. a teacher (P1) stated:

> Sometimes it is effective to teach students without direct reference to the teaching point, this also works.
>
> Çünkü çocuklar, onlar da çok farkına varmadan aslında bunu öğretmeye, yani çocuklara çok fazla direkt bir şeyi vermektense, onlar çok farkına varmadan, onlara işlemeyi tercih ediyorum açıkçası.

Additionally, making preparation then letting students perform, considering multiple-intelligences, and controlling students' understanding through applications

were stated five times by teachers as strategies of technology usage. For example, a teacher (V2) to emphasize the benefits of using multiple intelligences stated:

> If you apply multiple intelligences, it really works with some students. For example, if you teach something via music it becomes effective.
>
> Eğer öğrenciye çoklu zekâyı kullanarak öğretirseniz kesinlikle katkısı oluyor mesela bazı şeyleri müzikle öğretiyorsunuz kalıcı olmasını sağlıyor öğrettiğiniz şeyin.

Correspondingly, using available resources and demonstrating requested things were stated as strategies while using technologies in classrooms by four times. For instance, to state using available resources a teacher (P2) stated:

> Since there is no OHP in the classrooms, I take some pictures from clip-art and paste them to word document, then take printout and take it to the classroom.
>
> Genelde şöyle yapıyorum mesela, sınıflarda yansıtıcı olmadığı için, word'den clipart'a bakıp kelimeleri görsel olarak desteklemek istediğimde evde oturup o kelimeleri clipart'dan bulup onları word'a yapıştırıp çıktısını alıp, onu alıp okula getiriyorum ama çok zor oluyor.

Another teacher (A1) distributed a handout about the current topics of the lesson. There were formulas, explanations, exercises, and sample sentences for each type of conditional clauses on it. She completed the first exercise of each group of questions by explaining the meaning of the sentences. Then, she asked students do the rest of the exercises. In other words, she first demonstrated the requested task and then asked the students do the rest of the questions. She also showed how to combine two given sentences by using conditional clauses. Then, she asked the students do the rest of the questions.

Also, helping students when they get stuck, helping students when the subject is difficult, including the class in the activity, separating objectives of each lessons, considering student's personalities were stated as strategies in technology usage by three times. To explain helping students when the subject is difficult a teacher (P2) stated:

> Although I think that some subjects would appeal to students, if I realize that it is above their level, I prefer to use it in a smart class.
>
> Bazı konuları çocukların ilgisini çekeceğini düşündüğüm anlamakta zorluk çekecekleri için ve basitleştirmem gerektiğini düşündüğüm konuları akıllı sınıfa götürerek yapıyorum.

Another teacher (A1) explained the meaning of some unknown vocabulary items which she asked them to use while answering the questions about the video.

Another teacher (A2) to explain considering students personalities stated:

> Some students are shy because of their family's structure. I especially try to activate those students so that they become more extroverts.
>
> Bazı öğrencilerin evden, ailesinden getirdiği bir çekiniklik var, hep baskı altında filan. Bunlar ayırt edilerek tabii ki. Özellikle bu tip öğrencileri çok daha dikkat etmeye çalışırım ki bu çekingenliğinden kurtulsun diye.

Besides, providing individual feedback when necessary, being sure each student has ability to use, when something does not work pass another, trying to give basic knowledge in lessons were mentioned as strategies in using technologies by two times. Related with individual feedback a teacher (P1) stated:

> We have a lot of extra working hours during which we come together with the students and study.
>
> Bire bir etütlerimiz burada çok sayıda var. Çocuklarımızın olabildiğince yan yana geliyoruz, ortak çalışabileceğimiz zamanlar yaratmaya çalışıyoruz. Genelde teneffüslerimiz oluyor. Öğlen 1 saat teneffüsümüz var.

In addition, this teacher gave individual feedback to one of her students during the lunch break in her room. Another teacher (A2) helped her blind students during class (e.g., while spelling the newly mentioned words).

As shown in the Table 4.11, the average number of mentioned strategies of using technologies in classrooms according to the school types varies.

4.4.3. When to use

Teachers have different views about when to use technologies in their classrooms. For example, nine of the investigated teachers stated that they do not want to use technologies every time, they want to use when suitable. For instance, one teacher (R5) stated:

> If the place and time is suitable, we provide the students with technology because it is important to use technology only when necessary. So that the students do not deviate from the point he is studying.
>
> …yeri ve zamanı uygun olunca. Çünkü her zaman kullanılması da bir yerden sonra öğrencinin bence gene konudan kopmasına yol açar. Yani, ihtiyaç olduğunda ve zamanı gelince diye düşünüyorum.

On the other hand, four of the teachers want to use technologies like CD-player, pictures, and posters everyday. In addition, there are different beliefs about the time-period during the class hours to use technologies, two of the teachers use technologies to warm up and two of the teachers use technologies as post activity. A teacher (P2) stated:

> Everyday just after the class start, to enable the students watch five minute cartoon or play a sketch as a warm-up cheers the students up, and they become motivated.
>
> Her gün derste mesela ufacık, kısacık bir movie beş dakikalık bilgisayar olsaydı sınıfta her gün ilk sabah derslerinde bir eğlenceli İngilizce bir çizgi film, skeç kısa warm up yapar gibi çocuklar kendine gelsin gülsünler, İngilizceye ilgileri çekilsin.

4.4.4. Tools Used in the Classroom

Teachers mentioned various technologies that could be used in their teaching environment. All of the teachers mentioned about the usage of computers and Internet (web sites). Related with Internet, e-mail groups and MSN was mentioned only once. Similarly, webcam and forums mentioned only twice. Meanwhile, all of the teachers mentioned that some devices could be used in teaching environment. These devices and their frequencies are as follows; cassette player (17); CD player (15); projection (15), video (14); OHP (14); TV (9); DVD (5); laboratory (3);

scanners (2); smart class (1); and smart board (1). In addition, 14 teachers stated that films could be used and 9 teachers stated that songs could be used in English teaching. Furthermore, six teachers mentioned about some computer applications. Likewise, posters stated by 9 teachers, worksheets and games by seven teachers, handouts by 5 teachers, and flashcards by four teachers.

The average number of mentioned tools to be able to use in classrooms according to the school types varies. Private high schools teachers mentioned on average 20 different tools, Anatolian high school English teachers 15, regular high school English teachers 12.5, and vocational high school English teachers 14 respectively.

4.4.5. Considerations while Using Technology

Some technologies were being used by teachers for various personal and professional issues. While using these technologies investigated teachers gave importance to some points. Table 4.12 shows the points and their frequencies according to school types.

Table 4. 12: Considerations while Using Technologies

Considerations / School type	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Careful usage	4	2	5	4	15
· Ethical usage	4	2	3	4	13
· Make preparation	2	3	3	2	10
· Care security	2	1	5	2	10
· Suitability to the teacher aim	3	1	3	0	7
· Use with students	2	2	1	1	6
· Don't spend to much time	2	2	2	0	6
· Others (2 items)	1	1	0	2	4

For example, 15 of 17 teachers gave importance to the careful usage of these technologies. In addition 13 of the teachers considered ethical usage of these technologies, e.g. by being sensitive to others time or being sensitive to others emotional weaknesses. Besides, 10 teachers made preparation either being prepared for the lessons (mentioned eight times), checking technologies before lesson

(mentioned five times), or careful application (mentioned two times). For example, to emphasize checking technologies before lesson a teacher (P3) stated:

> I check whether there is any problem with the cables. If there is something missing or a problem regarding the voice I try to fix it.
>
> … doğru düzgün çalışmalarına bakıyorum. Mesela başlatmadan önce teneffüste vakit varsa eğer gider kontrol ederim. Kablosu eksik mi, bir şeyi düzgün çalışmıyor mu, sesi güzel geliyor mu diye dikkat ediyorum.

This teacher went to the classroom during the break before her lesson in the observation period. She checked the electricity, CD player, and sound of the CD. Then, she came back to the teachers' room and waited for the bell to ring.

Moreover, 10 teachers stated that they gave importance to security issues, e.g. a teacher (P1) stated:

> While checking my e-mails, if I recognize there is a spam I automatically delete or ignore them.
>
> Maillerimi kontrol ederken spam olduklarını düşündüklerimi direkt siliyorum. Ya da ignore ediyorum onları.

Another teacher (R6) on security issues stated:

> If I think it is insecure, I do not download any technology.
>
> Bilmediğim bir teknolojiyi bilgisayarıma indirmem, güvenli olmadığını düşünüyorsam.

Additionally, six teachers expressed that they tried to not to spend much time on using technologies. Moreover, six times it is stated that teachers use technologies with students. For example, a teacher (P1) stated:

> We went to the lab, we got our outputs and we prepared our posters together and the result was more efficient because of group work.
>
> Hep beraber bilgisayar laboratuarına gittik, çıktılarımızı aldık, posterlerimizi hazırladık hemen. Ve her şey o anda hep birlikte üretildiği için çok daha verimli bence.

During a teacher's (A1) observation, one of the students prepared the computer to watch a cartoon. After he adjusted everything, he closed the monitor. When teacher requested, he opened the monitor and started the cartoon. When teacher requested stop, continue, bring back, etc…, he executed. This may show that this teacher uses technologies with students.

In addition, seven teachers stated that they look at to the suitability of the technologies to the intended aims, e.g. a teacher (P2) stated:

> I usually use the technology in line with my objectives. If a picture is appropriate for the stated objective to be fulfilled, I download it or if just photocopies are enough, I just have some pages in the book photocopied. For listening and speaking skills I use the video if necessary.
>
> Mesela varmak istediğim hedeflere göre teknoloji kullanıyorum. Çocuğa belirlenen hedefler nelerse ona uygun, uygun olan bir fotoğrafsa onu indiriyorum. Veya fotokopi yeterliyse sadece kitaptan fotokopi çekiyorum. Dinleme konuşma yeteneği gerekiyorsa video.

Moreover, three teachers stated that they teach appropriate usage before applying technologies. For instance, a teacher (V1) stated:

> I try to raise awareness of the children with respect to the appropriate use of technology. I tell them to use it for different purposes rather than playing games. I try to warn the students about the fact that there may be some people trying to create difficulties for them.
>
> Çocuklara kötü örnek olmayacak şekilde hiçbir zaman, çocuklar oyun filan oynayın diye değil de yavrum bakın bunu farklı amaçlar için de kullanabilirsiniz. Şudur budur şeklinde filan diye. Çocuklara bu trojanlar hakkında hani adam sana maili gönderir ama aslında hedefi başkadır, bunlar hakkında çocukları bilgilendirmeye çalışıyorum.

Also, only one teacher stated that while using technologies more energy is devoted.

Table 4.12 shows that, the average number of mentioned considerations while using technologies in classrooms according to the school types varies.

4.4.6. Technology's Effects on students

Teachers thought that technology usage during teaching in classrooms affects students in various ways. Table 4.13 shows teachers' frequency of thoughts on the effect of using technologies on students according to types of schools.

Table 4. 13: Technologies' Effects on Students

Effects / School type	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Increase motivation	4	3	6	4	17
· Eager to use	4	3	4	1	12
· Helps to develop their English	2	2	5	1	10
· Positive responses	3	1	3	2	9
· Students better technology knowledge	3	2	1	1	7
· Active	2	2	2	0	6
· Use to improve themselves	2	1	2	1	6
· Changes according to students interest & level	1	0	2	2	5
· Helps them to contextualize	1	1	2	1	5
· To became researcher	2	1	2	0	5
· Others (4 items)	4	2	5	3	14

For instance, all of the 17 teachers believe that technology usage in English teaching increase students' motivation. For example, a teacher (R3) expressed:

> I really observe this. For example, even unmotivated student becomes motivated if there are some puzzles exploited by the teacher in the class.
>
> Hakikaten bunu görüyorsunuz öğrencide, mesela o bulmacalar geldiği zaman hiç ilgisiz bir öğrenci hemen dikkatini verebiliyor mesela o yüzden daha böyle dikkatli küçük şeylerle aslında ders anlatmak lazım.

Moreover, 12 teachers stated that students like the usage of technology in courses, e.g. a teacher (P2) stated:

> They encourage us to use more technology such as flashcards etc…
>
> Daha çok bizim hep onları yapmamız için bizleri teşvik ediyorlar. Hadi hocam etkinlik yapalım, flashcard'da resim yorumlayalım vesaire.

In one of this teacher's observed lesson, when she announced that they were going to play a game with flashcards, students showed great enthusiasm. They seemed to be very happy about playing games with the flash cards.

In addition, 10 teachers believe that technology usage in classrooms helps students develop their English. Besides, nine teachers stated that students give positive responses to the use of technology. One teacher (P1) to stress students' positive responses on technology usage in classrooms stated:

> Students participated more than expected. So their reactions were positive.
>
> Çocuklar kendilerinden beklendiğinin çok daha üstünde olumlu yanıt verdiler, buna katıldılar.

In one of the observed lessons (P2), the students were trying to explain the written words on the flash cards either by drawing, acting, or showing to their classmates. The student who guessed the word written on the flash card correctly had the right to explain the next flashcard. Almost all of the students seemed enthusiastic about guessing the words and explaining the next flashcard. This shows that they give positive response to technology usage in the classroom.

In addition, seven teachers admitted that students having superior technology knowledge than teachers. For example, a teacher (R1) stated:

> In fact, students have superior technology knowledge than us. They know which information to find in which site. I do not know if this is a result of his interest or something else.
>
> Öğrenciler zaten gerçekten de bizi aşmışlar teknoloji olarak. İstediği sitede ne, nerde çok iyi biliyorlar. Zamanları bol olduğundan mı ilgisinden mi bilemiyorum artık.

Furthermore, six teachers stated that when technologies used in the lessons, students became more active and they use technologies to improve themselves and gain self awareness. For instance, to underline students self awareness a teacher (V4) stated:

> Students become aware of the fact that they need to learn English because they may encounter anything in English in different context.
>
> İngilizce öğrenmemizin gerekli olduğu, bize faydalı bir şey olduğu, niye öğreniyoruz demek ki kullanabiliriz, istediğimiz zaman bir yerlerde İngilizce ile ilgili bir şeyler duyabiliriz mantığını geliştiriyor.

According to five teachers students responses change according to students' interest & level to the technology usage. In addition, five teachers consider that using technologies in lessons helps students in contextualizing and enables them to become researcher. In addition, four teachers stated that using technologies in classrooms provide opportunities to the students to able to use contemporary technologies. Additionally, three times stated that students become volunteers for the applications and they protect the tools when technologies used in classrooms. For example to draw attention to students' behaviors to protect the tools a teacher (A1) stated:

> The students try to keep the tools neat and they try to protect them as if they own them.
>
> Hani dolap koyup içine kitaplarımızı filan koysak hiç doğru düzgün korumazlardı ama bunları böyle en sorumluluğu fazla bilmeyen öğrencilerimiz bile çok güzel koruyorlar. Sürekli siliyorlar, ediyorlar ve kendi bilgisayarlarına dönüştürdüler.

In one of this teacher's lesson, a student used the computer to watch a cartoon; he started the video and paused it while the teacher was explaining the subject. Then, the student turned off the computer's monitor and waited for the teacher's request to play the video. This shows that some students pay attention to the technology in the classroom.

On the other hand, three teachers expressed that some students get bored and one teacher indicated that when technologies used for evaluation students anxiety level increases. Similarly, some teacher stated that using technologies in classrooms creates some difficulties for students. For example, three teachers mentioned about the difficulty in reaching technology for students, two teachers stated that English instructions create difficulties for students. Additionally, students' unsuitable level and students' insufficient knowledge about technologies usage were expressed once by teachers as difficulty for students, e.g. a teacher (P2) stated:

> The students do not understand the thing in the worksheet or handout. For example, the instructions create some difficulties some times.

Çok nadiren de olsa mesela worksheet'deki bir şeyi veya handout'taki taskı anlamıyor. Tek dezavantajı work sheet'teki veya handout'taki instructionları yabancı dilde anlayamayabiliyor.

As shown in the Table 4.13, high school English teachers opinions about technologies effects on students do not show variability except vocational high school English teachers.

4.4.7. Teachers' Expectations from Students

Technologies are being used by students in schools, outside the schools and at home for various purposes. Teachers expect students to use these technologies by considering some rules. Table 4.14 shows the mentioned rules and frequencies according to the school types.

Table 4. 14: Teachers' Expectations from Students

Effects / School type	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Consider guidelines	3	2	4	4	13
· Careful usage	2	1	5	4	12
· Do not waste much time	3	3	2	2	10
· Apply ethical usage	3	2	3	2	10
· Spend their times for beneficial activities	3	2	3	1	9
· Join activities seriously	2	3	1	2	8
· Approved sites	2	1	2	1	6
· Others (2 items)	0	3	0	1	4

For example, 13 out of 17 teachers stated that students should consider guidelines stated by teachers. For example a teacher (V4) stated:

The students have to follow the instructions of the teacher carefully. They should not do something else when there is a task assigned by the teacher.

Sen bir şey anlatırken veya bir teknolojiyi bir şeyi kullanırken söyleneni yapacak yani o sırada gidip de başka taraflara girip işte o girilmemesi gereken yapılmaması gereken şeyleri yapmaması gerekiyor.

In addition, 12 teachers stated that students should give importance to careful usage of technologies. Furthermore, 10 teachers mentioned that students should not waste much time on technologies, e.g. a teacher (P4) stated:

> I observe that students spend a lot of time using computers but most of the time they just make use of games and the messenger.
>
> Benim öğrencilerde gözlemlediğim çok fazla bilgisayar başında vakit geçiriyor olmaları ama bunu da genelde bilgisayar oyunları ve Messenger'dan öteye gidemiyor olmaları.

Besides, nine teachers expected students to spend some of their time for beneficial activities. For example, a teacher (A3) stated:

> I want them to do some searches but not only download music or films and play games.
>
> Vakitlerini müzik indirmek, film seyretmek, oyun oynamak için değil de birazcık yani bir saat onlarla ilgileniyorlarsa, bir yarım saat de bazı şeyleri araştırma için kullanmalarını isterim.

Moreover, applying ethical rules in technology usage was another expected behavior by 10 teachers. One teacher (P1) stated on this issue:

> We tell them about the ethical rules just at the beginning. We can identify the students who directly copied from a web page. We tell them necessary things and have them do what they have to.
>
> Daha çocuklarımız gelir gelmez etik kurallardan bahsediyoruz. Herhangi bir şekilde internet'ten direkt copy-paste yapan çocuklarımızı biz tabii ki burada search yaparak biz tabii ki yakalıyoruz. Gereken konuşmaları yapıyoruz ve tabii ki zaman içerisinde çocuklarımıza bunu yapmamaya, bunun yanlış olduğunu da öğretiyoruz tabii ki.

In addition, eight teachers wished to have students who join activities seriously (willingness). For instance, a teacher (V4) stated:

> She should take it serious and be there if she wants. I always emphasize the fact that if the student is not willing you can not have him to do something.
>
> Birincisi ciddiye alacak ve istiyorsa orada bulunacak, bunu hep vurguluyorum gerçekten ki istemezse zor.

Furthermore, six teachers want students to visit / surf on the approved sites. These approved sites were expressed as school resources, suitable resources, and trusted sites, e.g. a teacher (P2) stated:

When searching on the internet I usually direct them to some reliable sources. I suggest that they prefer the sites of libraries in specific search engines.

İnternet araştırması yaparken öncelikle güvenilir kaynaklara yönlendiririm önce. Gelişigüzel, onaylanmamış web siteleri yerine belli başlı kuruluşların, belli başlı arama motorlarının kütüphanelerin sitelerine girmelerini önermiştim.

Additionally, 3 teachers expect students to see technologies as supporter for their learning. Finally, one teacher desires students improve their trouble shooting activities.

As shown in the Table 4.14, teachers' expectations from students while using technologies show slight differences according to the school types.

4.4.8. Reasons for not Using Technologies

Teachers stated various reasons not to use technologies as much as they wish in their teaching environment. Table 4.15 shows teachers' reasons not to use technologies and their frequencies according to school types.

Table 4. 15: **Reasons for Not Using Technologies**

Reasons / School type	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Inadequacy of tools in classrooms	4	3	5	4	16
· Time wise problem	4	2	6	4	16
· Teachers are too overloaded	2	1	3	4	10
· Inadequacy of contemporary tools	1	1	3	2	7
· Too loaded curriculum	2	2	3	0	7
· Difficulty in classroom management	1	1	2	3	7
· Feeling difficulty of arranging technologies	2	0	2	3	7
· Unsuitability of the students level	0	0	4	3	7
· Difficulty in finding suitable materials	2	1	2	1	6
· Students do not have future plans with English	1	1	2	1	5
· No culture on using technology in school	0	1	2	2	5
· Others (4 items)	2	2	4	5	13

Time wise problem and inadequacy of tools in classrooms were stated as reason by 16 of 17 teachers included in the study. For instance, one teacher (P1) stated:

> There is just one lab in the school so we have problems fixing times. There is usually another class when we want to be in the lab. There is no other alternative.
>
> Bilgisayar laboratuarını kullanacaksınız yine orada ders olabiliyor. Orada mesela başka alternatifiniz yok. Hepsinden birer tane var şu anda.

In addition, 10 teachers mentioned about their workload as a reason for not using technologies in their courses. To draw attention to the workload of the teachers, one teacher (P1) stated:

> Our weekly workload is very high. Although we have to work until 15.30, I usually can not leave at 15.30. I have to work more.
>
> Haftalık ders programımız gerçekten çok yoğun olduğu için ben mesela hiç okul 8 buçuk, hatta sekiz çeyrek üç buçuk arası, üç buçuktan sonra okul dağılır. Ama ben hiçbir zaman için üç buçukta gittiğimi bilmem.

Indeed, most of the public high school English teachers had more than 20 hours lesson in a week.

Moreover, inadequacy of contemporary tools in schools, too loaded curriculum, difficulty in classroom management in technology used classrooms, feeling difficulty of arranging available technologies in schools, and unsuitability of the students level were stated as reasons by seven of participants. A teacher (P3) to express having too loaded curriculum stated:

> The curriculum is very loaded. We have difficulty keeping up with the pacing. For example I want to have the students watch films, but we usually do not have time. It usually becomes possible at the end of the term.
>
> Müfredat çok yoğun yetiştiremiyoruz. Mesela ben İngilizce film izlettirmek isterim öğrencilerime ancak sene sonunda vakit kalırsa oluyor. Haftada sadece bir kere video dersine gidebiliyoruz çünkü konular yetişmiyor o zaman. Yoğun olduğu için.

Another teacher (A2) to draw attention to the difficulty of classroom management stated:

> It's a great issue to take the students to the classes. To organize and to take them there is very hard.

> Öğrencileri sınıf dışına çıkartmak büyük bir mesele burada. Oraya götürmek götürüp de organize etmek de çok büyük bir iş.

Meanwhile, difficulty in finding suitable materials was given as reasons by six of teachers. For example one teacher (P2) stated:

> Because we study a lot of vocabulary everyday. I try to find 10 to 20 clipart so that the students have the opportunity to see flashcards.
>
> Çünkü biz her gün onlarca kelime işliyoruz. Her gün 10 tane 20 tane clipart arayıp, hazırlayıp çıktı almak hem zaman açısından çok vakit alıyor, hem de çocuklar siyah beyaz çıktı flashcard görmüş oluyorlar.

In addition, five teachers stated as reasons; students lack of future expectation with English and lack of culture on using technology in schools. For instance, to give emphasis to the students' unwillingness of English a teacher (R3) stated:

> Some of them really do not want to. Yesterday one of my students asked why they are learning English although we had a discussion about this at the beginning of the term.
>
> İstemiyor çocuklar gerçekten. Bana daha dün mesela düşünün 9. Sınıfta hocam biz niye İngilizce öğreniyoruz diyor. Dönem başında, neden İngilizce öğrendiğimizi konuştuk tartıştık, dün bana öyle söylüyor mesela.

Another teacher (V2) to emphasize lack of culture on school stated:

> If learning English is not considered as innovative but traditional, then you just go to class and exploit the course book but can not study most of the things.
>
> İngilizce öğretimine yenilikçi bakılmıyorsa gayet geleneksel bakılıyorsa, sınıflara girersin kitaptan işlersin maalesef çoğu şeyi yapamıyorsunuz.

Having lessons to different classes and unsuitable environments shown as reasons by four of participants as well. For example, to cite the difficulty of teachers when they have more classrooms a teacher (R1) stated:

> In the evenings when I am preparing something for the classes I have difficulty in allocating necessary time for each class. It would be easier if I had just one specific class but I have five classes and I have to prepare different materials for each.

> Akşamdan eve gittiğimde yarına ne hazırlayacağım diye düşündüğüm zaman, dediğim gibi hepsini o süreye paylaştırmak zorundayım. 2 saati 5 tane farklı sınıfa paylaştırırsanız, takdir edersiniz ki çok bir zaman kalmıyor bu durumda. Ama tek bir sınıf tipi olsa biri için hazırladığını hepsi için kullanabiliyorsun, aynı zamanda birinde yürümediğini gördüğün bir şeyi öbür sınıflarda hemen o anda değiştirebiliyorsun.

Another teacher (R6) to emphasize unsuitable environments in schools stated:

> I think that the physical conditions and tools are insufficient. If you want to take the students to the lab you have to accept the fact that all computer outdated. For example, none of them can read DVD.
>
> Fiziki şartların, var olan malzemenin yetersiz olduğunu düşünüyorum. Yani bilgisayarı kullanayım, çocukları bilgisayar olan bir yere götüreyim derseniz, bilgisayar laboratuarlarındaki bütün bilgisayarlar eskimiş. Mesela hiçbiri DVD okuyamıyor.

In another public high school (R4), there was no computer in the teachers' room. The classrooms of this school required repairs as there were even classrooms with broken doors.

Also, three teachers found students' ethical level is too low to be able to use technologies in their teaching. For example a teacher (V1) stated:

> The level of students is too low but not the knowledge level. Some of them have behavioral defects.
>
> Öğrencinin seviyesi düşük, bilgi seviyesi değil davranış bozuklukları var. Bazılarında diyeyim.

Lastly, two of the teachers were mentioned about difficulty in finding free time on technology facilities as reason not to use technologies.

As shown in Table 4.15, reasons for not using technologies in classrooms show slight differences among schools types. Reasons "unsuitability of the students' level" and "no culture on using technologies in school" was not stated by private high school English teachers. The reason "unsuitability of the students' level" was not stated by Anatolian high school English teachers as well. Although, private high

schools have more technology facilities compared with public schools, all the private school teachers complaint about “inadequacy of tools in classrooms” and they all see time as another reason.

4.4.9. Benefits for Teaching

Teachers mentioned various benefits of using technologies in their courses. Eight of 17 teachers saw technologies as cause of more permanent information in students. For example a teacher (A2) stated:

> Students enjoy more. The long term learning takes place if they enjoy.
>
> Öğrenciler daha çok keyif alıyorlar. Keyif aldıkları şey daha çok akıllarında kalır. Uzun süreli bir öğrenme gerçekleşir.

Moreover, eight teachers mentioned benefits of using technologies as helping to create an interesting environment and more effective lessons. To express creating an interesting environment a teacher (A2) stated:

> It facilitates learning. And the learning environment becomes admirable.
>
> Bir kere öğrenmeyi kolaylaştırıyor, öğrenme ortamını daha zevkli hale getiriyor.

Additionally, being able to use various activities and increasing students’ level of understanding were seen benefits of using technologies by four of teachers. The facts that to involve all the students to the lesson and to bring opportunities to the classrooms otherwise are impossible were stated by three of the participants as benefits of using technologies.

4.4.10. Teachers Thoughts about Using Technology

Schools could be accused of not providing suitable materials and technologies for their teachers to use them in their courses. On the other hand, there are various thoughts about technology usage in their courses by investigated teachers. Four teachers mentioned that incompetent teachers on technology may cause problems in classrooms. For instance a teacher (A2) stated:

> Only if you are unprepared, thus the technology becomes negative. If you are not competent you waste a lot of time and students make fun of you.
>
> Sadece hazırlıksızsan negatif yanı var teknolojilerin. Eğer çok fazla hâkim değilsen çok fazla vakit kaybediyorsun, öğrencilere rezil oluyorsun.

Besides, two teachers found teachers as key factor in technology integration. Additionally, four teachers believed that without technology English could not be learned. To emphasize the importance of using technologies in English teaching a teacher (P2) stated:

> Real learning can not take place without these technologies. That's way I think it is the backbone. It encourages students to think and to apply.
>
> Bu teknolojiler olmadan gerçek öğrenme bence gerçekleşmez. O yüzden temel taşı diye düşünüyorum. Görsel işitsel destek sağladığı için. Öğrenciyi düşünmeye ittiği için, uygulamaya ittiği için.

In addition, three teachers stated that everything does not work everywhere, two teachers expressed that the things may not work as planned, and one teacher mentioned that theory and practice may differ.

4.5. Technology in Evaluation and Assessment

To understand teachers' technology knowledge on assessment and evaluation, NETS-T's "Evaluation and Assessment" indicators were used. The result is shown on the Table 4.16. It seems that majority of the investigated public school teachers have shortage of knowledge on the first indicator of "evaluation and assessment". The Table 4.16 also shows that private school teachers have enough knowledge on the "Assessment and Evaluation" indicators. Although, three out of four private teachers have knowledge on the third indicator, only one out of 13 public school teacher has knowledge on that.

Table 4. 16: Assessment and Evaluation

NETS Indicators / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
1. Apply technology in assessing student learning of subject matter using a variety of assessment techniques.	4	1	2	2	9
2. Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.	2	1	1	2	6
3. Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.	3	0	0	1	4

4.5.1. Evaluation and Assessment issues

Teachers mentioned about various aims of evaluations such as, checking basic knowledge, whether students used technologies appropriately, controlling the effectiveness of used methods, showing the students' progress, helping to increase students' motivations, making students to study, providing immediate feedback, defining students positions in the classroom, looking at clues for improvement or not, and checking whether aims attained or not. Checking basic knowledge is stated by five teachers and all of them were from public high schools.

Teachers also stated that they use various tools for evaluations; project (9 times), presentation (8 times), homework (7 times), pictures (7 times), assays (5 times), portfolio (3 times), quiz (7 times), book reading (3 times), and note taking (2 times). Almost all of the private and Anatolian high school English teachers stated that they use projects, presentations, homework, and quizzes. On the other hand, approximately one third of regular and vocational high school English teachers stated that they use projects, presentations, homework, and quizzes. In addition, although three out of four private high school English teachers stated that they used assays to evaluate students, only two out of 13 public high school English teachers use assays.

Teachers give importance to the various students' behaviors in assignments. These are; enthusiastic (8 times), good research (5 times), good design (5 times),

did themselves (5 times), faultless (4 times), creativity (4 times), self consciousness (4 times), relatedness (3 times), rich content (3 times), timeliness (2 times), and fluent pronunciation (2 times). Private high school English teachers' expected behaviors from students are much more than public high school English teachers. When number of high school English teachers expectations from students are compared, private teachers expect on average six items, Anatolian high schools one, regular high school English teachers two, and vocational high school English teachers two respectively.

"Technology could be used in speaking evaluation", "having rubrics for every study", "interrupting in case of repeated mistakes", "sharing evaluation ideas with students", and "entering students' evaluations to databases" stated only twice by investigated teachers. "Having rubrics for every study" and "entering students' evaluations to databases" stated by private high school English teachers. In addition, a private high school English teacher stated that once she tried software for evaluation but could not use it effectively.

4.6. Professional Practice

To understand teachers' technology usage on productivity and professional practice NETS-T's "productivity and professional practice" indicators were used. The result is shown in Table 4.17. It seems that investigated public high school English teachers have little knowledge on these indicators. The Table 4.17 also shows that private high school English teachers have good knowledge on the first two indicators. In the first indicator except two of the 13 public high school English teachers have enough knowledge. On the other hand, about the other three indicators approximately more than half of the public high school English teachers do not have information.

Table 4. 17: Productivity and Professional Practice

NETS Indicators / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
1. Use technology resources to engage in ongoing professional development and lifelong learning.	4	3	4	4	15
2. Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology to support student learning.	4	1	1	2	8
3. Apply technology to increase productivity.	3	2	4	1	10
4. Use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.	3	1	2	1	7

4.6.1. Personal-professional development

Teachers follow various ways for their personal / professional development. Table 4.18 shows teachers' methods of professional development and their frequencies according to the types of the schools.

Table 4. 18: **Teachers' Professional Development Methods**

Reasons / School type	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Search in internet and available resources	4	3	5	4	16
· Wants to develop himself/herself	2	3	2	3	10
· Formal education	2	2	3	2	9
· Seminars	3	2	2	2	9
· Learn when need emerges	1	3	4	1	9
· Forums	3	1	1	2	7
· E-mail groups	3	0	2	2	7
· Colleagues	2	0	1	3	6
· Courses in outside the school	4	0	2	0	6
· Others (3 items)	4	2	1	1	8

For example, 16 of 17 teachers said that they search internet and available resources for their personal/professional development. For example, a teacher (V1) stated:

> If I come across something I am totally ignorant of, I refer to the Internet at home. If Internet is not available I refer to encyclopedias.

> Elbette bilmediğim bir şeyle karşılaşırsam, genel kültür olduğu için, direkt evde internete bakıyorum. Diyelim ki internette bulamadım. O an evde internet imkânım yok, ansiklopediler filan var ya onlara bakıyorum.

In addition, nine of the teachers stated that they learned things related with the technology during their formal education period. Additionally, nine teachers expressed that they learn things when need emerges and also nine of the teachers stated that they go seminars to develop themselves. Moreover, forums and e-mail groups were stated by seven teachers for personal / professional development of teachers. For instance, a teacher (V1) stated:

> There are forums or similar things and for example one of the people says that s/he taught a subject in a particular way but I teach that subject in a different way. Maybe I am not doing plans, but when I entered to the forums I am seeing very different things like I may teach that subject in that way.
>
> Forumlar filan var, birisi diyor ki ben şu konuyu şöyle anlatıyorum. Ben bu konuyu böyle anlatıyorum. Belki plan yapmıyorum ama oraya girdiğimde çok değişik şeyler görüyorum. Şu konuyu şöyle anlatabilirim filan gibi.

To express following e-mail groups and forums another teacher (V1) stated:

> I try to follow the forums in which I can find ideas about how they use the new technology.
>
> Yeni bir şey çıkmış, hiç duymamışsınız, o neymiş nasıl kullanılıyormuş, kullananlar onun hakkında ne düşünmüşler ne yazmışlar. Böyle küçük forumlar vardır ya ben bu makineyi aldım ama şöyle özellikleri var falan filan yazar ya. Onları filan takip etmeye çalışırım elimden geldiğince ya da işte bilmem neyi kullanmak şunu kullanmaya göre daha faydalı diyor.

Furthermore, using their colleagues and following courses outside the schools were mentioned by six teachers as ways of their personal development. For example, a teacher (P1) stated:

> We inform each other about the recent development within the department. They may be aware of a conference that I have not heard of.
>
> Departman içinde de arkadaşlarımızla birbirimizi muhakkak gelişmelerden haberdar ediyoruz. Benim duymadığım bir konferansı bir şekilde onlar bilebiliyorlar.

This teacher (P1) to draw attention to the courses outside the school stated:

> There are some symposiums that our school sends us regularly. However we do not have a chance to decide on the topics.
>
> Okulumuzun düzenli olarak bizleri gönderdiği bir takım sempozyumlar var. Ancak onların konularını maalesef biz seçemiyoruz bildiğiniz gibi.

In addition, learning from advertisements stated by four teachers, consulting others (family, sellers) stated by three teachers, and manuals was stated by one teacher as ways of using technologies for their personal/professional development. For example, a teacher (V1) stated:

> Sometimes you learn it via media. You watch the advertisements.
>
> Bazen medyadan öğreniyorsunuz, bir şey çıktı filan, şöyle de bir şey var filan diye, reklâmını görüyorsunuz.

As an important finding, 10 of the 17 teachers want to develop themselves in their technology knowledge and technology usage in their courses. Eight of them want to attend if there is a seminar on technology usage, four of them want to learn technologies how to use effectively, and two of them try to learn something about new developments. For instance, a teacher (A3) stated:

> Just to learn more about MS Word, MS Excel and the Internet, I prefer to attend any related seminar.
>
> … kullanım açısından, Word'u, Excel'i ya da buna benzer konuları interneti daha çok nasıl kullanabiliriz, nasıl yarar sağlar. O konularda daha fazla bilgi edinmek istediğim için gideceğim zaten.

A regular high school English teacher (R3) downloaded a program from the MoNE home page and tried to install it one of the computers in the school to follow the in-service seminars.

As shown in the Table 4.18, ways of learning things related with technologies for personal professional development show slight differences among schools types. One interesting point is that; all private high school English teachers mentioned about learning things about technologies by going to courses outside of

the school, but only two out of 13 public high school English teachers mentioned about it.

4.6.2. Benefits for Teachers

Teachers mentioned various benefits of using technologies for themselves. Seven teachers mentioned benefits of using technologies as taking teachers' less time. To emphasize taking teachers' less time a teacher (P4) stated:

> I used the transparencies which include grammar structures with the help of OHPs. It is more practical.
>
> Gramer kalıplarının bulunduğu asetat kâğıtlarını tepegöz yardımıyla kullanıyorum. Böylece daha pratik bir ders anlatımı oluyor.

Similarly, one teacher mentioned that using technologies don't exhaust teachers. Additionally, making teachers' responsibilities easier was seen benefits of using technologies by four of teachers. Furthermore, two of the teachers expressed that using technologies increase teachers' motivation.

4.6.3. Criticisms about Using Technologies for Personal / Professional Usage

Schools could be accused of not providing suitable materials and technologies in technology usage for their teachers. On the other hand, there are various confessions about reasons of not using technologies in their courses by investigated teachers. Teachers' confession frequencies are given in Table 4.19 according to types of the schools.

Table 4. 19: Criticisms about Using Technologies for Professional Purposes

Confessions / School type	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· I'm not using available resources.	2	1	2	2	7
· Teaching grammar is wrong but we do	0	1	3	2	6
· Being lazy	1	2	2	1	6
· Lack of interest	0	2	2	1	5
· Others (6 items)	4	1	0	1	6

For example, seven of the 17 teachers stated that they were not using available resources of the schools. Besides, six of them found themselves as lazy and five of them admitted that they have lack of interest in using technology in their courses. For example a teacher (V3) stated:

> But we do not have such a point of view. We do not have the tendency to make use of the current labs.
>
> Ama bizim şu anda öyle bir bakış açımız yok. Teknolojiyi kullanalım, bilgisayar laboratuarlarını bizde kullanalım, illa kendi laboratuarımız olmasın, zaten olanı kullanalım gibi bir telaşımız yok.

Moreover, six of them thought that teaching grammar is wrong but they still teach grammar most of the time in their classrooms. "Be able to integrate technology in a better way", "using technologies, not integrating", "not wanting to use tape much", "not using technologies much as communication tool", "are not interested with disinterested students", and "not seeing technology learning as valuable" were stated by once by teachers. For instance, a teacher (P4) stated:

> But I do not use them as a means of communication. I am not successful at Messenger and e-mails. They bore me.
>
> Ama pek haberleşme aracı olarak çok kullandığım söylenemez. Yani ben Messenger ya da e-mail konusunda çok başarılı bir insan değilim. Yani ben sıkılıyorum gerçekten bu tür şeylerin başında.

One private teacher finds herself as lazy but, teachers who say "teaching grammar is wrong but we do", teachers who admitted that they do not have interest to use technologies, and teachers who found them lazy are all from public schools.

4.7. Social, Ethical, Legal, and Human Issues

To understand teachers' technology usage on social, ethical, legal, and human issues NETS-T "Social, Ethical, Legal, and Human Issues" indicators were used. The result is shown on the Table 4.20. It seems that investigated high school English teachers have enough knowledge on the first and fourth indicators. Additionally, on second indicators although, private and Anatolian high schools

teachers do not have problems, regular and vocational high school English teachers have problems. Similarly, private high school English teachers do not have problems on fifth indicator but all of the public high school English teachers have problem on that indicator. On the other hand, on the third indicator (Identify and use technology resources that affirm diversity) almost all of the investigated teachers do not have knowledge. Indeed, only two of the 17 investigated teachers stated that they have information on identifying and using technology resources that affirm diversity.

Table 4. 20: Social, Ethical, Legal, and Human Issues

NETS Indicators / School Types	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
1. Model and teach legal and ethical practice related to technology use.	4	2	5	4	15
2. Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.	3	3	0	0	6
3. Identify and using technology resources that affirm diversity.	1	0	1	0	2
4. Promote safe and healthy use of technology resources.	4	3	5	3	15
5 facilitate equitable access to technology resources for all students.	3	0	1	1	5

4.8. Technological Support

The support on using technologies plays important role in technology integration in teaching environment. On this title, teachers' belief about the support they get, the ways of using available school resources and administrators' points of view to technology usage is given.

4.8.1. Administrative Support

In technology integration administrative support places a critical role. Table 4.21 shows the teachers thoughts about the administrative support that they have and their frequencies according to the school types.

Table 4. 21: Teachers' Thoughts about Administrative Support

Thoughts / School type	Private (N=4)	Anatolian (N=3)	Regular (N=6)	Vocational (N=4)	Total (N=17)
· Positive	4	3	6	4	17
· Thoughts are in the same direction	4	2	5	2	13
· Depends on budgetary resources	3	2	4	2	11
· Provide support to use	4	1	4	2	11
· Technical support	4	1	1	1	7
· Needs supplied	0	2	3	2	7
· Does the things that could be done	2	2	2	0	6
· Others (6 items)	5	3	4	4	16

All of the investigated teachers thought that school administrations had positive visions on technology usage by teachers in classrooms. On the other hand, three of the teachers expressed that there was no support for English lessons and two of the teachers stated that administrators support but do nothing. For example a teacher (V2) stated:

> Administrators also want us to use the technology but if we ask for something they usually are not positive.
>
> Yapılmasını onlar da isterler ama çok da gayretleri yok. Yaparsan iyi olur ama sen bir şey istediğinde eğer tedarik edilmiyorsa çok da olumlu bir tavır görmüyorsunuz.

Nevertheless, 13 teachers believe that administrators' thoughts on technology usage are in parallel direction with the teachers', e.g. a teacher (P2) stated:

> When we express such demands the administrations and our friends agree with us most of the time.
>
> Biz bu tip isteklerimizi ilettiğimizde idare veya arkadaşlarım her zaman bizlerle aynı yönde düşünüyorlar.

Indeed, 11 teachers stated that administrators provide support to use technologies in classrooms, e.g. a teacher (P4) stated:

> In fact the administration encourages us to use technology
>
> Aslında yönetim de hani okulun fiziksel şartları da bizi bu tür şeyleri kullanma konusunda gayet yüreklendiriyor, destekliyor.

Moreover, 11 teachers believe that administrators' capacities on technology supplying depends on the schools budgetary resources. For example a teacher (R6) stated:

> It depends on what you need you don't need that much money to buy VCD but you need a lot of money for a language lab. So we can buy a VCD for each class but we can not have a language lab for each class.
>
> Bu nasıl bir ihtiyacınız olacağına göre değişir. VCD gibi 40 YTL'ye alabileceğiniz bir teknoloji ile yeni bir dil laboratuarı oluşturmak için yapılacak masraf aynı değil. VCD'yi çok rahat aldırttırabilirsiniz. Ama her kuruma teknoloji sınıfı kurulması kolay değil.

Furthermore, seven teachers stated that teachers' needs related with the technologies were met by the schools and six teachers believed that administrators do everything they can. For example, a teacher (A1) while emphasizing how their needs are met stated:

> They don't reject any of our demands.
>
> Yani her türlü olanağı seferber ediyorlar. Hiçbir isteğimiz geri çevrilmiyor.

Another teacher (R1) to underline administrators' efforts to solve the emerged problems stated:

> If we state that a machine is insufficient or out of order they give priority to those needs.
>
> Bize şu lazım makinemiz yetersiz veya arızalı dediğimiz anda acilen ilk yapılması gereken şey olarak görüyorlar. Eğitimi aksatmamak için her şeyi yapıyorlar yani.

Another teacher (V3) also stated:

> They support us a lot and they update the tools.
>
> Çok destekliyorlar, devamlı yeniliyorlar mesela. Çocukların teknoloji açısından bir eksikliği yok bizim okulda. Destekliyor okul, eksikliklerini tamamlıyor.

Additionally, three teachers mentioned that to be able to get technologies, school administrators required group decision and three teachers expressed that new

technology installation depends school future plans, e.g. to express school's future plans a teacher (P2) stated:

> They are positive. They try to fulfill the needs in line with the schools' budget.
>
> Olumlu olumlu. Dediğim gibi destek veriyorlar ama okulun planları / imkânları dâhilinde yapmaya çalışıyorlar.

Another teacher (P3) to express the importance of group decision stated:

> The principal has never refused anything, if it is a common decision and if it is demanded by the department.
>
> Müdür beyde şimdiye kadar hiçbir şeyi geri çevirmedi. Ortak bir kararsa, zümre başkanı ile görüşülüp onun aracılığı ile iletildiyse hiç geri çevirmedi şimdiye kadar.

In addition, two teachers stated that administrators brought some things in each year.

In schools, technical support is also needed to solve various problems related with the technologies. In the study, seven teachers stated that there is technical support in school structure. Three of them also stated that computer teachers help when teachers have problems and one stated that there is teacher trainer for solving teachers' problems. Besides, three teachers expressed that administrators find ways to solve problems. For instance, a teacher (A3) stated:

> If there is a problem, administration settles the issue.
>
> Bir sorun olursa bu okul idaresi büyütecek değildir, çözüm yolu ne ise hep beraber yapılır.

On the other hand, one teacher stated that there was no support in about how to use technologies.

As shown in the Table 4.21, there are differences among teachers' reflections according to high school types. For instance, all of the private high school English teachers stated that schools administrators' thoughts were on the same direction with teachers, there was technical support in school, and administrators provided support to use technologies. On the other hand nine public

high school English teachers stated that administrators' thoughts were parallel with theirs on technology usage, seven public high school English teachers mentioned that administrators provided support to use technologies, and only four public high school English teachers expressed that there was technical support in school setting.

4.8.2. Available technologies

The available technologies in schools are varying from school to school. The accessibility of reaching these technologies in schools is varying as well. For example, 13 of the 17 teachers stated that they could able to use if the technologies is not busy. Moreover, six teachers expressed that teachers were taking the key and used available technologies. Besides, technology facilities expressed as always open by four teachers. In addition, four teachers found that there were many procedures to be able to use school technologies and three teachers stated that all the responsibility related with the technologies were over the teacher. For example, a teacher (A2) stated:

> In order to use computer lab, we have to follow some procedures. As a result of this I hardly make use of the lab.
>
> Bilgisayar laboratuarını kullanabilmek için bir sürü işlemden geçmek gerekiyor. O yüzden bilgisayar laboratuarına inemiyorum.

Another teacher (V1), to get attention to the responsibilities of teachers stated:

> If anything bad happens to tools it will need to be compensated. So we have to be careful and this discourages us.
>
> Onun başına en ufak bir şey geldiğinde onun da hesabı sorulacak yani. Onun yüzünden ben cesaret edip isteyemiyorum.

Besides, one teacher stated that some technologies were locked, key was given when requested and class is empty. On the other hand, three teachers stated that the programs of the technology facilities were on the front door of these technologies. For instance, a teacher (P1) stated:

> We have schedules pasted on the doors. We arrange our times accordingly.

> Listelerimiz var mesela video odasının kullanılması için açık, kapılara yapıştırılmış olan bir şey var. İstediğimiz zaman gidip oraya adımızı yapabiliyoruz. İstediğimiz şekilde oraları kullanabiliyoruz.

In two schools, teachers stated that some devices dedicated to some groups only, they are not open to all of the teachers.

Teachers, complaint about many procedures for using available technologies, are all from public high schools. All of the private high school English teachers stated that they could use technologies if they are not used, but one third of the public high school English teachers respectively. And only three private high school English teachers and one vocational high school English teachers expressed that the technologies usage programs are available for everyone.

4.8.3. Administrators' Point of View

4.8.3.1. Available technologies in schools

Schools have various technologies for various purposes on various places. For example, all of the schools have technologies for administrative issues. In addition, all of the investigated administrators stated that their schools have technology classrooms. Although, the materials show varieties in these classrooms, differences were not considered in the study. Furthermore, except one regular high school, all of the investigated high schools have computers in teachers' room. In addition, 12 of the 17 investigated schools have at least one portable computer and projection for teachers use. Only in five public high schools there is not at least one portable computer and projection for teachers use. Furthermore, four administrators stated that there are computers ready for students' usage in school settings. Besides, one private and one Anatolian high school administrator stated that there are technologies available in all classrooms. Moreover, two private high school administrators and one regular high school administrator is planning to have technologies (computer and projection) in all of their classrooms in next year. For instance, an administrator (YR1) stated:

> We have a plan to provide each class with a computer and projection. We have some plans to obtain them from different sources. Besides, each class is connected to the Internet.
>
> Bütün şubelerimize bilgisayar ve projeksiyon temin etmek ve sınıfın fiziki yapısını buna uygun hale getirmek gibi bir planımız var. Değişik kaynaklardan bunu temin etmek için çalışmalarımız var. Bunun yanında bütün sınıflarımıza internet bağlantısı götürdük".

Another administrator (P3) on planning to put technology in each classroom stated:

> If all classes are equipped with necessary technologies, there will be no waste of time and students will be more active. Next year we will have all of our classrooms equipped with necessary tools.
>
> Eğer bütün sınıflar teknolojik olarak donanımlı olsa bu geçişlerde yapılan zaman kaybı önlenecektir, öğrenciler daha aktif olacaktır. Seneye bütün sınıflarda teknolojik donanımın olmasını sağlayacağız.

Lastly, two private high schools have a Smart Board and one private high school has Smart Class.

4.8.3.2. Deficiencies of Schools

Schools have some technologies in their classrooms. Administrators also mentioned some deficiencies they have encountered. Except one Anatolian high school administrator, all of the private and Anatolian high school administrators did not mentioned about deficiencies. Deficiencies and their frequencies are as follows; inadequacy of technologies in school (f=7), limited school resources (f=6), shortage of classrooms in school (f=5), shortage of basic needs like meeting room (f=4), and inadequacy of administrative staff (f=2). For example, to express deficiencies in the school an administrator (YA3) stated:

> We have a problem regarding space. We have to share opportunities. We do not have much technological opportunities. For example, it would be better if we had more computers.

> Çok büyük yer problemimiz var. Mevcut imkânları paylaşma durumundayız. … Teknolojik imkânlarımızın sayısı az, mesela bilgisayar daha fazla olsa iyi olurdu.

To emphasize deficiencies of school another administrator (YR4) stated:

> When this building was connected no space for social activities was considered. No sport center or conference rooms were available. We even had to combine two rooms to have a teacher room.
>
> Bu bina yapıldığında hiç sosyal aktivite için mekân hazırlanmamış, düz bina yapılıp teslim edilmiş. Kapalı spor salonu, konferans salonu düşünülmemiş, hatta öğretmenler odasını bile iki sınıfı birleştirerek yaptık.

Furthermore, three administrators stated that classrooms are two crowded in the school. For instance, an administrator (YR5) complained about crowded classrooms by saying,

> We have too many students. These technologies have to be used but where they should be located is a great problem. The classes consist of 50 students which means, we do not have enough rooms even for students. So, it is difficult to allocate a room for those technologies.
>
> Okulumuzda çok öğrenci var. Bu teknolojilerin kullanılması, kurulması gerekiyor ama nereye koyacaksınız. Zaten sınıflar 50 kişilik, bu teknolojileri koyabilmek için daha fazla sınıflara ihtiyacınız var. Lazım, ama mümkün değil bu kalabalıkta.

During school observation, it was witnessed that there were more than 24 students in most of the public high school classrooms. There were even 50 students in a regular high school (R5) classroom.

4.8.3.3. Technology Usage Procedure

The procedure to be able to use technologies shows variations among investigated high schools. For instance, 14 of the administrators stated that reservations should be made to be able to use technologies, e.g. an administrator (YP1) mentioned:

> You make arrangement for smart board and projection. You either take the class there or bring the projection to your own class.
>
> Smart board ve projeksiyon için randevu alıyorsunuz. Ya sınıfı oraya götürüyorsunuz ya da onları sınıfınıza getiriyorsunuz.

Moreover, 10 administrators stated that teachers request related with the technologies are met. In addition, 10 administrators mentioned that when immediate needs required they were trying to create alternatives for technology requests. To express having alternatives an administrator (YP2) stated:

> There are alternatives if she really needs it. If the smart class is occupied she can use the lab or the video room.
>
> Eğer çok ihtiyacı varsa opsiyonlarımız var, eğer akıllı sınıf dolu ise laboratuarımız var orayı kullanıyor veya video sınıfını kullanıyor.

Another administrator (YP1) about having alternatives stated:

> They try to create opportunities; if one of them is out of order, we can make use of another. They try to overcome the problem immediately.
>
> Bunlardan biri bozulursa diğeri ile idare edebilirsiniz diyorlar. Alternatif yaratmaya çalışıyorlar. Bir çaresine hemen bakmaya çalışıyorlar.

Furthermore, eight administrators want information from teachers when they planned to use technologies. Besides, two administrators stated that teachers should show their justifications to get permission to be able to use technologies in their lesson. To emphasize the need of justification an administrator (YP1) stated:

> You write the lesson plan and show it to the principal. You tell him for which purpose you want to use the video. You are not allowed to use it just for the sake of using it.
>
> Ders planını yazarsın, okul müdürüne götürürsün, ben bu videoyu bu amaçla bu kadar süre kullanmak istiyorum diye. Dersi doldurmak için video kullanmaya izin verilmez.

Additionally, “teachers make arrangements to be able to use technologies in their lessons”, “technological support is available for any kind of teacher requests about technology usage”, and “teachers are able to use technologies when they are

not used" stated seven times by high school administrators. To highlight the availability of technical support an administrator (YP3) stated:

> It is a great opportunity for someone who becomes familiar with technology lately, to have a computer center.
>
> Bilgi işlemimizin olması, benim gibi sonradan teknolojiye alışan kişiler için bizim büyük kolaylık. …Zümre içinde halledemezsek teknik elemanlar var onlar anında yardımcı oluyorlar.

Another administrator (YP4) about technological support stated:

> We have a computer technicians, they solve immediately. If the problems seem to take time, they use backups.
>
> Bizim bilgisayar teknisyenlerimiz var, anında müdahale ediyorlar. Zaman alacak sorunlar olursa yedekleri kullanabiliyorlar.

Contrastingly, three administrators expressed that when problems occur, teachers should solve this problems on technologies by themselves. Lastly, one administrator does not have information about how teachers are using school's technologies in their lessons.

There are differences on technology usage among schools according to schools types. For instance, although all of the private high schools have technological support, only three of the 13 public high schools have a kind of technological support. On the other hand, "informing administration to be able to use technologies", "teacher makes arrangements", "able to use technologies if they are not busy", and "teachers solve the problems by themselves" are all mentioned by public high school English teachers.

4.8.3.4. Benefits of Using Technologies

High school administrators believe that using technologies in teaching environment brings many benefits, such as audio-visual help mentioned 15 times by administrators. Moreover, 10 high school administrators believe that using technologies in lessons increase students' motivation. For instance, while mentioning about benefits of using technologies an administrator (YP3) stated:

> Most of our teachers make use of these technologies. When they use PowerPoint in a presentation, it throws the attention of the students.
>
> Bunların kullanılması büyük rahatlık, öğretmenlerimizin hepsi çok rahatlıkla kullanıyorlar. En azından sunumuzda görsel olarak bir Powerpoint kullandığınızda öğrencinizin ilgisini çekiyorsunuz, yanındakiyle daha az konuşuyor.

In addition, nine high school administrators believe that using technologies helps to create student-centered learning environments. Additionally, helps saving time and creates more permanent information on students mentioned six times by high school administrators. Furthermore, helps to create an interesting learning environment and helps teachers in their teaching expressed five times. Bringing opportunities to the classroom otherwise impossible was highlighted three times as well, e.g. an administrator (YP2) about benefits of using technologies stated:

> You save time, it brings real life to the classroom, facilitates, and by using many senses it enables the students to acquire long term learning.
>
> Zaman tasarrufu dağlıyor, gerçek hayatı sınıf ortamına getiriyor, kolaylaştırıyor, teknoloji olmasa imkânsız olabilecek şeyleri sınıfa getirebiliyor. Çok sayıda duyunun kullanılması ile işlenilen konunun öğrencinin hafızasında daha fazla kalması sağlanıyor.

And also, to high school administrators believe that using technologies in teaching environment enables students to make search about the subjects. Finally, an administrator believes that using technologies in teaching environment make communications easier among students, families, teachers, and administration.

There are no differences among the high school administrations about the benefits of using technologies in teaching. Interestingly, “using technologies in teaching environment helps teachers” is only mentioned by public high school administrator.

4.8.3.5. Administrators' Perceptions of Teachers' Technology Usage

Teachers should use suitable technologies was stated by 15 of the 17 investigated high school administrators. Moreover, 12 of them believe that teachers

should learn how to use technologies than apply them in their teaching environment. In addition, 9 high school administrators believe that to enable teachers to use technologies education should be given to them. To express the need of technology education for teachers an administrator (YV2) stated:

> I think that all teachers need inservice training. I think that teachers need to be trained both professionally and technologically.
>
> Tüm öğretmenlerin hizmet içi eğitime alınması gerektiğini düşünüyorum. Öğretmen arkadaşların hem mesleki açıdan hem de teknoloji kullanımı açısından zaman içinde eğitilmeleri gerektiğini düşünüyorum.

Similarly, four high school administrators mentioned that educations about using technologies are given to the school teachers. To express given technology educations to school teachers an administrator (YP2) stated:

> We are training our teacher on the use of these technologies. The teachers need to take the certificate of the use of Microsoft tools just at the beginning.
>
> Ama bu teknolojilerin kullanımını biz öğretmenlerimize öğretiyoruz. Eğitimini veriyoruz. Okula gelen öğretmen ilk olarak Microsoft Office araçları kullanım sertifikası alması gerekiyor.

Likewise, five of the administrators believe that teachers need time to be able to learn the usage of technologies and apply them in their lessons. For instance, to give importance of giving time to teachers to learn technologies an administrator (YP1) stated:

> The teacher need some time. All technologies are designed for dummies. If you allocate some time, you can learn. The teacher should become competent so that she feels herself confident.
>
> Öğretmenin zamana ihtiyacı var, bütün teknolojiler dummy'ler için yapılıyor. Biraz zaman ayrınca her şeyi öğrenebiliyorsunuz. … Öğretmen arkadaşın zamanı olacak ki ben bunu sınıfta kullanabilirim diyecek (confident) kadar öğrenebilmeli.

Additionally, seven high school administrators give responsibilities to themselves in technology integration by saying technology infrastructure should be provided by school administrators. To underline the importance of providing

necessary infrastructure and need of the teachers' education an administrator (YV4) stated:

> We need to create the necessary infrastructure so that the teachers can use them. But, the teachers also need to train themselves to become competent.
>
> Öğretmenler kullansın tabii ama bunun için bizim gerekli altyapıyı hazırlamamız lazım, öğretmenlerin de kendilerini yetiştirip, bu teknolojileri kullanmalarını öğrenmeleri gerekiyor.

Similarly, two high school administrators see teachers' possessing of technologies as necessary to enable teachers to use technologies.

There are no big differences among school types on administrators' beliefs about teachers' technology usage. But, four public high school administrators stated that to protect technologies in classrooms is difficult and three public high school administrators expressed that students ability levels too low.

4.9. Wishes about technologies

The teachers included in the study have different level of technology abilities and also are using technologies for various purposes. Although their technology usage and accessibility of technologies in their schools show variations they have similar wishes about using technologies in their teaching environment. For instance, 15 of the teachers wished to be able to use more technologies in their lesson. To emphasize her wish to use technologies more, a teacher (A1) stated:

> I want to use video, visuals more often.
>
> …video olsun, görüntüler olsun, o tarz şeyleri daha sık kullanmak isterdim.

Another teacher (V1) about the desire to be able to use more stated:

> I would like to use it whenever appropriate.
>
> Yani sık sık kullanmak isterdim. Konunun uygun olduğu her an kullanmak isterdim.

In addition, to teach in a language classroom was stated by seven teachers e.g. a teacher (P3) explained how she could teach in language classroom by saying,

We would like to study the listening class in the lab with appropriate tools.

İşte dinleme dersini dil laboratuarlarında kulaklıkla buna benzer şekilde yapmak isterdik. Öğrencilerin tek tek kendilerinin dinlemesini sağlardık ki planlarımıza da bunları bu şekilde koyabilirdik.

Another teacher (P1) about language classroom stated:

I wanted to have a language classroom in which there are all necessary Technologies.

Gönül isterdi ki bir languagae classroom'um olsun. İçinde her türlü teknoloji… keşke derslerimizi orada işleyebilseydik ideali tabii ki bu.

Similarly, five teachers stated that they wanted to have their own classroom. To show her wish about having her classroom a teacher (A2) stated:

I need a class which has a computer and a projection and which is suitable for presentations.

Sunum yapmaya uygun bilgisayar ve projeksiyonun olduğu bir sınıfa ihtiyacım var.

Another teacher (V3) pointed out her desire of having own classroom by saying

We want the students to come to the class which is already available for their use rather than we go to their class.

Bizim önceden hazırlandığımız sınıflar olsun, öğrenciler laboratuar gibi gelsinler istiyorum. Biz değil onlar bize gelsin.

As this teacher emphasized, four teachers wants students to come their classrooms instead of they go students' classrooms. In addition, three teachers wish to have students who desire to learn English. For instance a teacher (V4) to emphasize students who have interest to English lessons stated:

What the school should provide me with are a classroom and willing students.

Ama okulun bana sunması gereken bir sınıf ve istekli öğrenci başka bir şey istemiyorum.

Moreover, to have their own materials, to be able to teach things for daily usage, to have homogenous classrooms, and to have digital library stated twice by teachers included in the study. Finally a teacher wanted to have enough preparation times before lessons.

Not only teachers but also school administrators mentioned their wishes about the school resources. Two schools have technologies in all of their classrooms. Similarly, 13 administrators believe that technologies should be available in each classroom, e.g. an administrator (YA3) stated:

> I want the number of the current ones to be increased. The current technology class is not sufficient. We also want each class to have a projection.
>
> Mevcutların daha da arttırılmasını isterim, şu andaki teknoloji sınıfı yeterli değil. … Mümkünse her sınıfa daha uygun olur… Sayı bakımından daha fazla olsa iyi olurdu. Biz de her sınıfta bir projeksiyon olsun istiyoruz.

Another administrator (YP3) to give rationale for her wish about technology in each classroom stated:

> We want each class to have technology. Students' attention is distracted very easily. So, technology will create motivation, provide visual benefit, and enable us to save time.
>
> Her derslikte teknoloji olsun istiyoruz. Bugünün öğrencisinin dikkati çok çabuk dağılıyor. Bu anlamda teknoloji çok önemli, motivasyonu sağlayacak, görsel yarar sağlayacak, zaman sağlayacak bize.

In addition, four administrators want basic needs (like sport center) met and four administrator want smart board in their schools. Additionally, four administrators want materials for lessons. For instance to simply the needs of school and administrator (YV2) stated:

> I want to have a projection in all of our classes. I would like to have conference room. But we have the problem of inadequacy of the building. As we do not have a building I do not have the chance to demand this and that.
>
> Ben isterim ki bütün sınıflarımızda projeksiyon makinemiz olsun, çok güzel bir salonumuz olsun. Ama bizim her şeyden önce bina sıkıntımız var. Bina olmadığı için şu olsun diyebilecek durumda değilim.

Lastly, one administrator wants to have more administrative staff to help teachers prepare technologies for their lessons. Administrators believe that they are trying to replace technologies with the available resources. Moreover, 12 of the 17 administrators believe that teachers could be able to use technologies whenever they want. For example, an administrator (YA3) stated:

> We want the teacher to be able to use it whenever she needs it. If there was one in the classroom available, she would use it more.
>
> Öğretmen sınıfta ihtiyaç duyduğu anda kullanabilsin istiyoruz. Sınıfta olsa istediği anda kullanabileceğini bilse, derslerinde daha çok kullanırlardı.

One administrator admitted that she is not following the innovations in technology.

CHAPTER 5

DISCUSSION

In this study, qualitative research design was used to investigate the phenomena within different high school districts. Different high schools (regular, private, vocational, Anatolian) English teachers were analyzed from different districts of Ankara. Interviews, documents, and observations were used as the sources of data. Content analysis (identify underlying ideas, issues, concepts, themes and patterns in the data) method was used for the analysis of the observations, interviews, and documents. And this chapter is going to evaluate the findings that were reported in the previous chapter.

5.1. Technology Competencies

Technical skills is mainly accepted as a necessary first step in moving towards using technology in educational settings in national technology standards, textbooks, and training programs for teachers (Sandholtz & Reilly, 2004). As Ertmer and Hruskocy (1999) stated, the success of technology integration efforts may depend on the focus and effectiveness of staff development efforts. Even though the investigated teachers' perceived basic technology knowledge level could be accepted as average, they have different levels of basic technology knowledge. This finding is similar to some earlier studies. For instance, Usluel and Haslaman (2003) carried out a study to investigate teachers' present and preferred situations of computer usage in an Anatolian Technical High School and found that teachers' "present situation grades were lower than preferred situation grades related to computer technologies usage, impact on student and purpose of usage … [T]eachers' expectations were on using computer technologies more and in larger areas, moreover having and accessing better hardware." (p. 204).

This study revealed that most of the public high school English teachers included in the study need to develop their basic technology operations and concepts although Sandholtz and Reilly (2004) stated that "if we take away expectations for technical skills and allow teachers to focus on developing curriculum, evaluating learning materials, and thinking about how to provide better learning opportunities for their students, teachers are likely to use technology more effectively and creatively in their teaching" (p.488). Sandholtz and Reilly's proposal may work under the conditions where teachers have basic computer usage competency, but in this study there were teachers who even did not use e-mail at all or rarely used it. Given that these teachers have taken technology courses in their education, they could be expected to have this knowledge but that is not the case. This may indicate that, there was a problem in their education periods. Moreover, it cannot be expected of these teachers to focus on developing curriculum, evaluate learning materials, and think about how to provide better learning opportunities for their students via computers. In order to do these, teachers first should have well basic technology knowledge, or have opportunity of integrating educational technologies into their teaching environments while they are learning how to use these technologies. In other words, these teachers should be trained through by providing in-service training on how to use these technologies or through training environments where they could practice using technologies for educational purposes in real settings while, at the same time, they may learn use of these technologies. Consequently, these teachers may learn the use of educational technologies while they are learning how to integrate technologies for educational purposes. In addition, requiring a certificate which shows that a teacher has the basic technology knowledge may encourage newly hired teachers to have this kind of knowledge.

When private high school English teachers were considered, their basic technology operations and concepts knowledge were found quite high. The reasons for these variations may be the administrators' points of view on technology usage and integration in school settings e.g. they may require high basic technology knowledge in newly hired teachers. Moreover, private high schools have

opportunity to hire any teachers they chose, this could be another factor. In addition, in private schools to hold the jobs may require teachers to be competent in a variety of skills. Additionally, administrations in private high schools require teachers to enter students' assessments to the school's database system this may have needed teachers to become familiar with technologies and their attributes. During observation, it was noted that in the private high schools the available technologies were much more than public high schools in quantity and quality. Also, to reach these technologies were easier in private high schools compared with public high schools. Availability of technologies may have increased the basic technology operations and concepts knowledge of these private high school English teachers.

5.1.1. Classification According to CEO Forum

Teachers may demonstrate various competency levels as they teach in their classrooms (Sweeder & Bednar, 2001). When investigated teachers are classified according to CEO forum classification, public high school English teachers are generally on the adoption stage, which means they are "beginning to use technology usually to enhance their own productivity, mandated either by the school or through their own initiative" (CEO, 1999, p.14). This level could be defined as between persuasion and decision stages of Rogers (1995) innovation decision process. This finding is similar to Usluel's and Askar's (2003) study. They carried out a study on teachers' stages at the innovation-decision process related to the use of computers on three primary schools. They found that teachers are generally beyond the information stages at the innovation-decision process and they are in the persuasion stage. Conversely in this study, private high school English teachers were mainly on the appropriation stages according to CEO classification. Teachers at this stage "view technology as a relevant tool for teaching and learning and they design learning experiences and environments to take advantage of its capabilities to meet objectives and desired outcomes" (CEO, 1999, p.14). Although private high school English teachers have better knowledge on basic technology knowledge, they still want to develop themselves more than public high school English teachers. Similarly, Cagiltay et al. (2001) conducted a study on teachers' perspectives about the use of computers in education. They found that many of the investigated

teachers desire to learn more things on the usage of computers in classes. The reasons for these variations may be the administrators' points of view on technology usage and integration in school settings. Moreover, private high schools have opportunity to hire any teachers they chose, this could be another factor. In addition, in private schools to hold the jobs may require teachers to be competent in variety of skills. Another reason may be the resources or budgets of the schools to meet the teacher requests. Additionally, as one of the administrators (YP2) pointed out, private high schools may be giving trainings to the newly hired teachers before they start teaching or when need emerges. Furthermore, parents pays tuitions to the private schools for their children, they may want schools to integrate technology in teaching environments.

Similar to this study, preservice teachers' perception on their technology knowledge shows variation in previous studies. In the Top's (2003) study, preservice teachers' perceived technology knowledge levels were quite high. On the other hand, Toker (2004) found that preservice teachers perceived technology knowledge levels were intermediate. Finally, Akkoyunlu and Kurbanoglu (2004) carried out a study to investigate teachers' information literacy self-efficacy. They found that teachers' information literacy self-efficacy level was generally low. Inline with these studies, this study also showed that there are problems in the teachers' technology integration process. This may be due to the heavy teaching loads, not having technology training, not having appropriate technology facilities, lack of materials and technical support, lack of encouragement and promotion, and lack of strategy in technology integration in schools. Indeed, during the observation period it was noted that most of the public high school teachers were just following the course book, doing exercises and applications given in the course book by mainly applying lecturing as their teaching methods. In addition, they had many teaching hours during a week, many topics to cover in their lessons, and difficulty in reaching available schools technology resources. Solving these discouraging situations could be a good starting point in technology integration process. Moreover, this problem may be solved by providing in-depth in-service training or supplying suitable guidance on technology integration in these teachers' teaching

environments. Requiring a certificate which shows candidate-teachers have adequate knowledge and ability on technology integration in educational settings may encourage pre-service teachers to have this kind of knowledge.

5.2. Technology in Planning

The study showed that almost all of the teachers included in the study have enough knowledge on where and when to use technology. Almost all of them have the necessary qualifications to plan technology usage in their classrooms according the NETS-T's indicators. From these findings it might be said that the studied teachers were aware of the use of educational technologies in teaching environment but they were not using technologies in their teaching. One of the reasons for that situation might be lack of incentives or mandatory's to use technologies in their teaching environments. In addition, being aware of the usage of technologies for educational purposes could be attributed to their teacher education period. In other words, during their education period, the studied teachers might have been informed about the usage of technologies for educational purposes.

5.2.1. Considerations for Making Decisions in Technology Usage

Teachers should be able to select, adapt, or design technology-enhanced materials that meet the needs of their students (Glennan & Melmed, 1996). Similarly, Young and Bush (2004) stated that "it is important to develop and entertain key questions to decide how, when, and whether to change an activity, lesson, or unit by incorporating technology" (p.10). The integration of technologies could be done easily when teachers choose technologies that are compatible with their pedagogical orientation (Zhao et al., 2002; Hughes, 2004). In addition, technology use should have a relevant context that involves specific connections between technology and subject matter and/or pedagogical content knowledge (Young & Bush, 2004; Hughes, 2004). Young and Bush (2004) stated "when technology is not tied to an authentic context and purpose, it will likely become a burden for users" (p.9). They also further pointed out that "[t]o integrate

technologies in a classroom without an understanding of context risks using technologies ineffectively or inappropriately" (p.7).

While choosing or deciding what materials to use in their lessons, the teachers included in this study pointed out similar instances as considerations. The emphasized points by teachers in the study while choosing materials were as follows; suitability of the students' level, contents of the courses, appropriateness to the context, level of students' concern, suitability to teacher's intended aims, readiness level of the students, suitability of the classroom environment, students needs, currency of the materials, multiple intelligences, size of the class, students' expectations, and applicability of the materials in classroom. Even though most of the public high school English teachers were at the adoption stage of the CEO forum (1999) classification, it is a good indicator that they are knowledgeable in what to consider in deciding what technology use. During observations some high school English teachers (e.g. V1 and P1) pointed out, they were planning to watch some English videos in some of their classrooms at the end of the semester as students' level were found not suitable before the end of the semester by themselves. Another teacher (A2) were showing cartoon in their lesson during observation, when asked what were the reasons of showing cartoons, she explained that sentences of the cartoon were simple and easy to follow and understand. When school types were compared, private high school English teachers consider far more variables than public high school English teachers. Private high school English teachers have been using technologies in their teaching environment far more than public high school English teachers. Therefore, they might be more aware of the necessary context to use technology in their lessons. Another reason might be; private high school English teachers are on the further stages of CEO classification which means they have more technology knowledge and apply them in their teaching environment. While using technologies in their teaching environment, teachers might be learning more than they think they are.

To reinforce teachers to consider the use of technologies in their teaching environments, video-multimedia recorded case can be made available to them in

relation to the content chunks in the curriculum. As the researchers (in the first paragraph of this topic) stated, successful and effective technology integration requires careful planning and controlling various factors. Just bringing technologies to the classrooms and using them in teaching may not produce intended outcomes (Dutt-Doner, Allen, & Corcoran, 2005; Maddux & Johnson, 2005; Britten & Cassady, 2005). Similarly, a teacher (P2) stated that they did not watch a video just to watch it; anyway the administration did not allow this to happen. While using a technology in teaching environment teachers should have a logical objectives and suitable methods for it. For that reason, for beneficial technology integration, some questions should be asked and answered about the context of the teaching environment by technology applying teachers. For instance, Young and Bush (2004) suggested some questions to English educators through their technology integration process. The teachers need to be guided in answering such questions through providing appropriate work load, facilities, support, training, rich media and material libraries;

1. Why do I want to use technologies? Is the purpose authentic? Purposeful? Do I have an instructional need that is not being currently met that technology might help with? If not, is there an instructional strategy or learning activity that I want to implement that technology might enhance or assist?
2. What are my goals and objectives as a teacher for my students? How can the technologies enhance my ability to reach these goals and objectives? How can they enhance my students' abilities to reach these goals and objectives?
3. What are my students capable of doing and handling with regard to technology? What are their limitations? What am I capable of doing? What are my limitations? How can we teach each other, grow together?
4. What technology resources are available for me and for students, and how can they be used?
5. How might issues of access and equity affect our experience?

6. If resources are minimal, how can I maximize them? How can I adapt to limited access to technology tools and resources?
7. How will the use of technology affect or enhance my students' overall literacy? Are these consistent with my goals and objectives?
8. What are the curriculum standards, local, state, and national, which address technology in the English language arts? How might I fold these into a purposeful use of technology in my classroom?
9. What other issues do I need to consider? What other resources can I draw upon for insights? (p.10-11)

5.2.2. Sources of materials

There are many resources to find suitable educational materials for any kind of teaching environment. As Swenson et al. (2005) stated English educators could also integrate some of the available materials such as digital texts, databases, archives, videos, games, web sites, web logs, and other online resources into their teaching environment. Investigated teachers mentioned resources of educational materials as Internet resources, course book publishers, school libraries, students' materials, course books' homepages, their own available materials, university libraries, and resource centers. When used educational materials resources are compared according to school types, it could be claimed that private high school English teachers use more resources than public high school English teachers. One of the most important reasons for this situation may be the fact that private high school English teachers are using various technologies during their lessons so it is normal that they may be looking for various resources to be able to find most suitable materials that fit to their contexts. In addition, public high school English teachers were mainly following the course book in their lessons, which could be another reason. Additionally, private high school teachers were staying at the school even though they do not have lessons during the teaching hours of the day but public high school teachers were leaving the school when they have no lesson. Private teachers might be searching for suitable materials in their free hours during the teaching hours of the day. The question of "why teachers need extra materials"

might be explained by the fact that publishers have not been able to assume that schools may have insufficient technologies or teacher expertise to make use of technology central to the curriculum while developing curriculum materials (Kleiman, 2004). In two of the private schools (P1 and P3) English teachers were trying to choose course books for some of their classrooms as they were not happy with the present course books of these classrooms. The main reason for the unhappiness was the heavy grammar content and inadequacy of the activities. But, to change course books of the public high schools is not that simple. The main English course book of the public high schools is chosen by MoNE. This could be another explanation why private high school English teachers were mentioned more resources in English teaching environment.

Moreover, when examined schools' technology facilities and technological support system considered, private high schools have better opportunities than public high schools, which may have encouraged private schools English teachers to think about using alternative materials than they already have. Indeed, during observation period in two private high schools (P1 and P2) there were school's staffs to help teachers on the use of technologies in their teaching environment. Additionally, in private high schools, there may be demands about using various resources and technologies in teaching environments from the school's administration. Furthermore, there may be other reasons of not using various sources of educational materials; for example teacher may not know the other sources of educational materials; they may not need any other educational materials except the course book (indeed, some studied teachers stated that they are only following course book); or their teaching strategies may not require using various types of materials (during teachers' observation, it was seen that some teacher were using lecturing as teaching method in their classrooms). To be able to enrich the materials and technologies these teachers use in their teaching, they might be provided with set of materials and activities, online address of sources, and appropriate technology infrastructure.

5.3. Technology Usage

Teachers use of technology knowledge were investigated by using NETS-T "Teaching, Learning, and the Curriculum" indicators. The results showed that private high school English teachers do not have problems on most of these indicators. Anatolian high school English teachers have trivial problems and regular and vocational high school English teachers have serious problems on some of these indicators. One of the reasons of this finding may be the fact that technology knowledge of private high school English teachers is better than public high school English teachers. As seen during the observation period, the accessibility and usage of the technologies in private high schools might be easier than public high schools and this could be a factor for these differences among schools. Private and Anatolian high schools have more English lessons in their programs and this could be another factor for using technologies more than regular and vocational high schools. As one of the private high school administrator (YP2) pointed out, private high schools may be giving trainings to the newly hired teachers before they start teaching or when need emerges. This may also another reason for the differences.

5.3.1. Purpose of using technologies

Technology could be used for various purposes in educational settings. For instance, Roblyer (2006) defined some of the usages of technologies to enhance instruction;

1. supplying interaction and immediate feedback to support skill practice,
2. illustrating connections between skills and real-life applications,
3. letting students systems in unique ways,
4. giving access to unique information sources and populations,
5. supplying self-paced learning for capable students,
6. allowing access to learning opportunities, and
7. providing opportunities and support for cooperative learning.

In addition, Hughes (2004) stated that some purposes of using technologies as enabling students' and parents' access to up-to-date information via grading

programs, PowerPoint or other presentation tools which provide visual supports for lectures, and word processors which write tests or create handouts.

The investigated teachers also mentioned various purposes of using technologies in English teaching. Some of the mentioned purposes are as follows from mostly stated to less stated; to provide visual help, to get students' attention, to create a learner centered environment, to enable students to speak, to give more than one stimulant, to enable them to practice, to improve students' listening, to encourage students, to develop students' pronunciation, to show daily usage of English, and to have audio familiarity with some language items. These findings could be accepted as parallel with the literature e.g. Becker (2000) stated that exemplary computer user English teachers obey some standards in their teaching environment; (1) one of the most important goals of using computer was that improving writing skills, (2)computers did not primarily serve as a reward to students for completing other work, (3) computer activities mostly or nearly always directly supported other work done that day in class, and (4) when students were given an assignment to complete a story from a prompt, computers were used at least 25% of the time.

The mentioned purposes of using technologies show variations among school types. For example, "to develop students' pronunciations" and "to show daily usage of English" were stated by only public high school English teachers as purpose of using technologies. In addition, "to enable students to learn by doing" were stated by all of the private high school English teachers and only two of the 13 public high school English teachers. From these findings it can be said that private high school English teachers are using technologies by aiming student-centered teaching and public high school English teachers are using technologies mainly to develop students' basic facts or skills. This was partially observed during the observed lessons and also the public high school English teachers accepted that they were teaching grammar and they tried to teach basic knowledge. One reason of this could be as Ringstaff and Kelley (2002) stated that teachers, who are exposed to technologies frequently and in a greater variety of ways, "are more likely to have

their students use technology as a tool in tasks that require higher-order thinking" (p.13). In addition, the number of mentioned purposes of using technologies in teaching environment by private high school English teachers is also more than public high school English teachers. The studied private high school English teachers perceived technology knowledge were better that public high schools English teachers. This difference could be explained by as Ringstaff and Kelley (2002) stated feeling prepared to teach using technology as necessary to use technologies frequently and in a greater variety of ways in teaching environment. Moreover, public high schools case could be supported by Becker's (2000) finding that the majority of investigated teachers showed that their major goal in using technologies was to help students to master basic facts or skills. As witnessed during the observation periods, most of the public high school English teachers were lecturing even though they accepted it was wrong. Having too many teaching hours in a week, too loaded classrooms, and too overloaded curriculums might be reasons of using lecturing instead of student-centered teaching by these public high school teachers.

5.3.2. Strategies of usage

Technology usage in classrooms requires special strategies and preparation of teachers to get intended benefit. As Becker (2000) pointed out the exemplary computer-user teachers are preparing themselves to use computers well in their teaching. The strategies show variations depend on various factors such as the used educational materials. Similarly, the teachers included in the study also mentioned different strategies while using technologies in their classrooms. Some of the pointed strategies from most frequently stated to less frequently stated are as follows; creating student-centered environment, following course books, using intervals for elaborations, creating practice opportunities for students, using indirect methods, making preparation then letting students perform, considering multiple intelligence theory, controlling students' understandings through applications, and using the available sources. The appearing common strategy between literature and investigated teachers was that they both give importance to student-centered teaching environment. For instance, Ringstaff and Kelley (2002) stated that in

numerous studies teachers reported that technology encourages them to be more student-centered. Additionally, Becker (2000) stated that exemplary teachers enable students to do work tailored to their own learning needs (student-centered), emphasize small-group work with each team of students working together and using different software, and are more likely to give students a choice in selecting software.

Although most of the teachers stated that creating student-centered environment is important while using technology, some of them also accepted that "teaching grammar was wrong but they applied" (six of the 13 public high school English teachers). In the observation period, there were public high school teachers who were mainly teaching grammar during their lessons or, in other words, lecturing. As Kleiman (2004) emphasized teachers try to strengthen their own preferred approach; for example, a teacher who primarily lectures may use a computer and a large display to provide visual support for the lectures. This may help to explain why studied teachers pointed out visual support mostly as purpose of using technologies.

During the observation period as they emphasized in the interviews, almost all of the teachers were using intervals for elaborations. For instance, while watching a film or after a film, a teacher was asking various questions about the film to make some points clearer or after listening a dialogue, a teacher was asking further questions to make students understand the dialogue well or after explaining the use of a sentence structure teacher was asking various questions about the structure. The aim of these activities and teacher's questions may be enabling students to create their own understandings. This type of technologies usage could be defined as guided activities for students (Robbins, 2000). However, by developing more complex and authentic tasks for students, the effective use of technology could be achieved. As Glennan and Melmed (1996) emphasized when technology is used as part of an instructional approach involving students in complex, authentic tasks, it can support the transformation of student learning that is at the heart of education reform. This type of technology usage was applied in private schools e.g.

a teacher (P4) had given a presentation homework which includes searching about a profession, interviewing with a person from that profession, and preparing a presentation to the class to introduce that profession. This homework included finding information from different resources, analyzing/comparing obtained information, decision of what to present, and using technologies like recording interviews, finding materials (pictures, diagrams, posters, videos, etc…), and preparing presentation. During the presentation period teacher were asking indirect questions about the mistakes by aiming students to realize their mistakes.

The number of mentioned strategies by private high school English teachers and Anatolian high school English teachers' were almost twice as many as regular and vocational high school English teachers'. One reason for these differences may be the fact that private and Anatolian high schools have more English lesson than regular and vocational high schools in their weekly schedule. Another reason could be that since private and Anatolian high school English teachers are using technologies more often, while they are using these technologies, they might have developed strategies about what works, and under what conditions it works. In addition, most of the public high school teachers were using mainly lecturing and this may explain the differences in regular and vocational case.

The timing and the duration of the using technologies for educational purposes varies. More than half of the teachers are aware of the fact that technologies should not be used every time; they should be used when suitable. As stated in the CEO forum (1999) "[t]he real strength of technology in education comes from using the right technology at the right time to meet the right objective" (p.6). However, some teachers want to use some technologies everyday such as CD-player, pictures, and posters everyday. Nevertheles, the examined teachers did not mention a lot about when to use technologies.

Teachers also gave importance to some points while using technologies. Some of the emphasized points from the most frequently stated to less frequently stated are; careful usage of technologies, ethical usage of technologies, making

preparations for the lessons, giving importance to security issues, and using technologies with students. This was also observed during observation periods.

Teachers included in the study generally mentioned about benefits of using technologies in their lessons. However, they also pointed out some important issues in using technology. For instance, some teachers emphasized the importance of teachers' competencies on technology usage; some the conditions about the plans failures in real applications while some teachers considered technologies as inevitable ingredients of English teaching and according to some teachers, as Cakiroglu and Cakiroglu (2003) pointed out, teacher is the key factor in technology integration. Similarly, Zhao et al. (2002) also consider teachers as "[o]ne of the important ingredients to the successful integration of innovative uses of technology in schools" (p.495). In addition, according to Young and Bush (2004), technology is an essential medium due to its growing prevalence and importance in our society and our interaction with the rest of the world. In addition, teachers might have positive attitudes about technologies in teaching environment due to the novelty effect of technologies (Clark, 1983) as almost all of the studied teachers aware of the usage of the technologies for educational purposes but most of them did not apply in their teaching.

5.3.3. Used Tools in Classroom

Tools improve our cognition and the current technology industry provides continuously new tools (Young & Bush, 2004). In addition, some of the tools have proved to be successful and effective in the learning contexts and processes. The technologies that could be used in education by studied teachers are generally tools (cassette player, CD player, projection, video, OHP, etc…), visuals, and audio-visual materials. Only six of the investigated teachers mentioned about computer applications. One reason for not mentioning about computer applications may be that teachers do not use computers in their lessons and personal life much. In addition, private high school English teachers mentioned about more technologies that could be used in educational settings than public high school English teachers. Additionally, except two of the schools, there were no computers in classrooms in

the studied high schools. Similarly, Akbaba-Altun (2006) found that "there are too few computers, slow Internet connections, insufficient software in the native language, and a lack of peripheral equipment at schools" (p.185). In a fully technology integrated settings, teachers should be able to use various technologies in their teaching. For instance, Becker (2000) stated:

> The exemplary practitioners directly addressed curriculum goals by having students use a wide variety of computer software, including simulations, programming languages, spreadsheets, database programs, graphing programs, logic and problem-solving programs, writing tools, and electronic bulletin-board communications software (p.291).

But, the studied schools were not equipped with enough technology facilities to have exemplary teachers like Becker (2000) pointed above. There was not even a desktop computer in the classrooms for the use of teachers in 15 of the 17 studied schools.

5.3.4. Effects on students

The use of technologies in classroom affects students on various ways. For example, in technology rich classrooms, students become more motivated (Schacter, 1999; Roberts, Lemke & Myers, 1999; Ringstaff & Kelley, 2002; Kleiman, 20004), become more active learners (Ringstaff & Kelley, 2002; Kleiman, 2004), have better confidence (Ertmer & Hruskocy, 1999; Ringstaff & Kelley, 2002), like their classes more (Schacter, 1999), develop more positive attitudes (Schacter, 1999), have better self-esteem (Ertmer & Hruskocy, 1999), improve their reflection (Schacter, 1999), learn multiple perspectives (Schacter, 1999), increase their level of independent thinking (Schacter, 1999; Ringstaff & Kelley, 2002), improve their higher order thinking skills (Ringstaff & Kelley, 2002;Young & Bush, 2004), improve their basic computer abilities (Ertmer & Hruskocy, 1999; Kleiman, 2004), and improve their achievement (Roberts, Lemke & Myers, 1999).

Similar to the mentioned literature, technology usage in lessons has various effects on students according to the teachers included in the study. These technology effects on students are generally positive and in accordance with the related literature. Some of the positive effects are; increasing students' motivation,

liking the usage of technology, helping students to develop their English, giving positive responses, becoming more active in lessons, and gaining self awareness. Similarly, in some of the observed lessons as mentioned in the literature (e.g. Kleiman, 20004), students were enthusiastically joined the activities done with technology. In addition, seven of the studied teachers admitted that students have superior technology knowledge than teachers. Likewise, Young and Bush (2004) pointed out that the levels of technology knowledge of students show variations. In addition, they are on average more confident and more accustomed to life with technology than their teachers. Getting bored, increase in their anxiety level when using technology for evaluation purpose, and coming across some difficulties while using technology were mentioned as negative effects on students. It seems that there were no considerable differences among school types and most teachers were knowledgeable about the types of effect of technology on students. Although most of the studied teachers have admitted the positive effects of technology usage on students in teaching environment, most of them especially public high school teachers did not use technologies in their teaching. As Rogers (1995) mentioned in his innovation decision process, most of the studied teachers could be accepted as passed the persuasion stage positively. For that reason, necessary steps could / should be made to enable most of these studied teachers especially public high school teachers to pass next stages of the innovation decision process.

5.3.5. Students' expectations about use

The technologies are being used for students for various purposes in schools or in their homes. To care for and maintain available resources, class rules should be defined. These rules may include: (a) help one another solve problems, (b) share information and ideas openly, (c) congratulate each other for making progress and maintaining good effort, (d) work closely with others who are working (physically) close to you, (e) support peers who are faced with personal "crises," and (g) support each other beyond the computer environment (Ertmer, 1999). Similarly, teachers included in the study have different expectations from students about the usage of these technologies. Some of the teachers' expectations from students from the most frequently stated to less frequently stated are; obey the rules stated by teachers,

carefully use the technologies, do not waste much time, applying ethical rules, spending their times on beneficial activities, visiting approved sites, and see technologies as supporter for their learning not a tool to spend spare times. Ringstaff and Kelley (2002) pointed out "[h]aving a computer at home does not necessarily ensure that students are using the computer in ways that will increase their academic achievement" (p.20). Likewise, the studied teachers also complaint about students spending too much time on things not related with their education. In addition, Ertmer (1999) defined rules for students studying alone and in groups but in the study, the pointed student's expectations about use are generally related with the times students studying individually. Most of the studied teachers were lecturing maybe for that reason they did not mention about expectations related with students' group study. In addition, there were no computers in classrooms, this could be another reason why teachers did not mentioned about expectations related with students' group study. Furthermore, private high school English teachers expectations' from students were more than public high school English teachers as private high school English teachers use technology more than public high school English teachers. The fact that one may not know what to expect from students unless the teacher uses technologies in his/her lessons explains public high school teachers' low expectations.

5.3.6. Reasons for not Using Technologies

There may be a great number of excuses stated by the teachers for the ignorance of the use of technology in teaching environments. For example, Ertmer et al. (1999) found that lack of equipment, lack of time, lack of classroom help, lack of relevance, mismatch with classroom management style, and lack of confidence are barriers to technology integration. Similarly, the studied teachers (both the ones who use technology in their classroom and the ones who do not) also put forward various reasons for not using technologies in their lessons. For instance 16 of 17 teachers emphasized that inadequacy of tools in classroom and time were the reasons for not using technologies in their lessons. Likewise, Ringstaff and Kelley (2002) expressed that "without sufficient access to technology, of course, even well-trained, highly motivated teachers will not be able to integrate technology

effectively into instruction" (p.17). Becker (2000) also found insufficient access and not having enough instructional software as major reasons for not using technologies in educational settings. On the other hand, inadequacy of tools in classrooms is stated by almost all of the investigated teachers as the main problem but, almost none of the private and Anatolian high school administrators mentioned any deficiencies in their schools. This shows that there is a disagreement between school's teachers and administrators. This problem might be solved by developing a school wide shared vision for technology integration. Indeed, to fully integrate technology in educational settings as many researchers and studied teachers pointed out first of all sufficient access should be provided in these studied schools.

Some of the other stated reasons from the most frequently stated to the less frequently stated are; being too overloaded, inadequacy of contemporary tools, overloaded curriculum, difficulty in classroom management, feeling difficulty of arranging available technologies, unsuitability of the students level, difficulty in finding suitable materials, students' not having future plans with English, and having no culture on using technology in school. Similarly, Zhao et al. (2002) proposed some explanations such as, the incompatibility between technology and the current culture of schooling, natural unreliability of technology, ill-preparedness of teachers, poor quality of educational software, the predominance of conservative pedagogy, and the power of standardized assessment. Likewise, about the importance of school culture, Zhao et al. (2002) emphasized that "[t]eachers need to look carefully, not only within themselves but also at their technological and social environments before they begin to implement innovative uses of technology in their own classrooms and teaching" (p.511). The differences of opinions regarding this subject may have come out for some reasons, for instance, not having current technologies, feeling difficulty of arranging available technologies, or having difficulty in arranging free times on available technologies. Some of the stated reasons could be accepted as general problems of Turkish education system. For instance, Cakiroglu and Cakiroglu (2003) pointed out some of the problems as inadequacy of "professional skills and knowledge to cope with the educational goals of today's society, low salary, low status, heavy demands upon time, heavy

workload, lack of opportunities to improve professional knowledge and effective performance and, finally, lack of job security" (p.257).

The explanations for not using technologies vary according to school types. For example, reasons "unsuitability of the students' level" and "no culture on using technologies in school" was not stated by private high school English teachers. The reason "unsuitability of the students' level" was not stated by Anatolian high school English teachers, either. This reason might easily be explained as those students might have technological facilities at their home and might have access to technologies. Additionally, those students might have more English language facilities. Therefore the technology might not have any problem with students' level. Although private high schools have more technology facilities compared with public schools, all the private school teachers complained about "inadequacy of tools in classrooms" and they all consider time as another reason. The reason for this condition is that these private high schools have technological facilities in different classes and teachers bring students to these places. This may be the reason why teachers found technological facilities inadequate. Because they use technologies in their lessons, and most of them want to use more, and they do not want to lose time on arranging these technologies. As Becker (2000) explained, exemplary computer-using teachers will more likely have more problems as they have greater expectations about the utility of computer resources. In addition, private high school English teachers may want technologies always available in their classrooms and be able to use when they need. In addition, there were more than 25 students in most of the observed lessons in the public high schools classrooms. This might be another reason for not using technologies as classroom management could be difficult in crowded classrooms as seven of the studied teachers pointed out.

5.3.7. Benefits for Teaching

There are contradicting viewpoints about the benefits of using technologies in lessons. One of the most well-known debates on this subject is Clark (1994) & Kozma (1994) debate. Although debate continues, the studied teachers mentioned

various benefits of using technologies in educational settings such as, causing permanent information, helping to create an interesting environment, more effective lessons, increasing students' level of understanding, enabling to use various activities, bringing opportunities otherwise impossible, and helping to involve all students to the lesson. Many researchers mentioned that the beliefs of the teachers play an important role in technology integration (Sandholtz, Ringstaff, & Dwyer, 1997; Russell et al., 2003; Hughes, 2004), this study show that most of the studied teachers have positive thoughts about technology usage in teaching environments. In addition, there are similar findings in the literature e.g. Ringstaff and Kelley (2002) investigated the use of technology in education researches and fount that "technology is most powerful when used as a tool for problem solving, conceptual development, and critical thinking" (p.5). They also stated that, technology has positive effect on student motivation and engagement, preparing students for jobs, and enhancements of students' ability to work collaboratively. However, they accepted the shortage of tools and methods to measure impact in these domains. Additionally, teachers included in the study precisely did not mention about the negative effects of using technologies. Most of the teachers included in the study were not using technologies as main tool or always in their teaching. This may be the reason for why they did not mention about the negative effects of using technologies and also could be explained by Clark's (1983) novelty effect of technologies.

5.4. Technology Use in Evaluation Process

Using appropriate assessment strategies allows teachers to look for evidence of deeper understanding, synthesis, statements of relationships, and generalization of ideas to new domains (Dwyer, 1994). In the study, it seems that there are differences between private and public high school English teachers on NETS-T "Evaluation and Assessment" indicators. For instance, private high school English teachers have quite much knowledge about NETS-T "Evaluation and Assessment" indicators while public high school English teachers have limited knowledge on them. Moreover, in the NETS "using technology resources to collect and analyze

data, interpret results, and communicate findings to improve instructional practice and maximize student learning" indicator there are differences among schools as well. Indeed, three out of four private teachers have knowledge on this indicator; only one out of 13 public school teacher has knowledge on that. Using technologies in their lessons in private high schools may be a cause of these differences. Another reasons may be private high schools have more technology facilities than public high schools. They might allocate more budgets to technology facilities since they get money from students' parents. On the other hand, public schools' budgets are limited to what they get from the government. In other words, they may be improving their technology infrastructure to increase school's competitiveness. In addition, private schools' policies and regulations may require better technology abilities/integration to stay and hold the position. In addition, Private high schools have web pages to provide information to parents about their children which might be another reason for the differences. In this subject, Merkley et al. (2006) stated that to remove time and schedule barriers, "e-mail and Web-based communications have emerged as viable options to increase parent-teacher interaction and provide school–based information in a timely and consistent manner" (p.12). They also pointed out "online student management portals extend opportunities for families to stay linked to classroom requirements and resources" (p.12). Parents' wishes may be a factor for this difference; they may want immediate feedback about their children from the school's administration. Most of the studied public high school English teachers were on the adoption stage of the CEO forum (1999) classification. Their inadequate knowledge on the evaluation and assessment issues might be accepted as another proof of the suitability of their classification stage.

5.4.1. Evaluation and Assessment Issues

While almost all of the private and Anatolian high school English teachers stated that they use projects, presentations, homework, and quizzes, less than one third of regular and vocational high school English teachers stated that they use projects, presentations, homework, and quizzes. From this result, it can be said that private and Anatolian high school English teachers use various ways to understand students understanding. These could be because of having more English lessons in

their weekly schedule. In addition, during the observation period most of the studied vocational and regular high school teachers were using lecturing as teaching method and this may explain why they did not use other evaluation methods like projects or presentations In addition, as Kleiman (2004) pointed out technology integrated lessons may require students using simulations, searching for information on the Web, and preparing reports and presentations using word processors, databases, computer graphic tools, and multimedia presentation software. Her comment may also explain the reason of this difference as most of the studied teachers were not using technologies in their lessons..

The expectations of private high school English teachers from students were far more than public high school English teachers. They gave various English lessons to their students and use various methods and technologies to teach English. These could be reasons for increasing their expectations from students. To sum up, these findings of this study showed that some of the studied teachers may need training on the usage of technology for evaluation and assessment issues. As stated in the literature, in addition to receiving training on how to use technology instructionally, teachers need additional help in learning how to assess products created using technology (Penuel et al., 2000; Ringstaff & Kelley, 2002). Not knowing or have less knowledge on how to assess students gains when technology used might be a reasons for teachers not using technologies in their teaching.

5.5. Professional Practice

Technology helps teachers in breaking out of their traditional isolation, communicating with their peers (e.g. through online forums) and outside content experts about the instructional content and pedagogical issues, and communicating with parents about their expectations, activities, assignments, and student progress (Glennan & Melmed, 1996). However, there were big differences on the NETS-T "Productivity and Professional Practice" indicators between private and public high school English teachers. Private high school English teachers had far more knowledge on the NETS-T "Productivity and Professional Practice" indicators than public high school English teachers. Private high school English teachers were

using technologies in their teaching more than public high school English teachers. In order to be effective in their teaching and to hold job in private schools may require teachers to develop rapidly and continuously. Moreover, private high school administrators may be demanding teachers following and applying technological developments to their teaching. In addition, some of them were also providing training opportunities for their previous and new teachers. The findings showed that public high school English teachers had more teaching hours in a week than private high school English teachers and this could be another reason for public high school teachers' not sparing time for their professional development.

Teachers and teacher educators should professionally develop themselves continuously by focusing on the integration of the curriculum and content, rather than merely technical operation (Swenson et al., 2005). For that reason, as Swenson et al. (2005) pointed out "English educators need release time and access to newer technologies in order to critically and productively evaluate their potential (p.218). For that reason, it can be said that suitable opportunities and time should be allocated to teachers to develop themselves personally and professionally on technology knowledge. In addition, requiring a certificate with a definite interval (for example 5 years) or to follow a training program may encourage teachers to seek to develop themselves continuously.

5.5.1. Personal-professional development

The CEO forum (1999) defined professional development for teachers as "an ongoing, long-term commitment that begins with the decision to pursue a career in education and continues, through a combination of formal and informal learning opportunities, for the duration of a career" (p.8). Teachers included in the study apply various methods to develop themselves personally and professionally by using technologies. Some of the pointed methods are from most frequently stated to less frequently stated are as follows; searching internet and available resources, during formal education, continuing seminars, learning when need emerges, following forums, joining e-mail groups, consulting colleagues, and continuing courses in outside the school. Similarly, about using Internet, Akkoyunlu (2002)

pointed out almost half of the teachers consider that Internet will make contributions to their professional development. Likewise to give importance to self-learning, Becker (2000) emphasized that "the exemplary computer users had learned significantly more about using computers through self-instruction than through formal training, and they spent much more time using computers at home than other users" (p.284). It could be said that computer and Internet access is important in teachers' personal and professional development. In addition, Ertmer and Hruskocy (1999) made a study to investigate teachers' use of technology when support is more readily available. They found that after getting support, teachers' usage of technologies increased for their personal-professional development. For that reason, also more support could be given to high school English teachers to develop themselves personally and professionally. Moreover, almost half of the studied teachers see formal education as their professional and personal development period as well. Similarly, Becker (2000) found that "the exemplary teachers had more formal training in using and teaching with computers" (p.283). More formal training might increase high school English teachers' educational technology knowledge and abilities but, while increasing the amount of training, the balance between training and portable benefits should be considered. For example, as Akbaba-Altun (2004) stated "there must be closer alignments between the amount of time for professional development with technology and its degree of perceived importance" (p.268).

In the study, 10 of the 17 studied teachers desired to develop their basic technology knowledge and technology usage in their teaching. There are similar studies that show teachers' and teacher candidates' desire to improve their knowledge related with technology in Turkey. For instance, Kurbanoglu and Akkoyunlu (2002) made a study to reveal students' information literacy skills and perceived computer self efficacy in the division of Elementary Mathematics Teaching. They revealed that, students were finding themselves as incompetent and desired more knowledge on information literacy skills. In addition Cagiltay et al. (2001) conducted a study on teachers' perspectives about the use of computers in education. They found that "many of the teachers desire to learn things on the usage

of computers in classes" (p.25). Desire to learn things about educational technology are important in technology integration and this could be accepted as most of the studied teachers passed the Rogers (1995) diffusion of innovation's persuasion stage positively. Similarly, Becker (2000) sees having strong personal interest in computing activities and a greater personal commitment to lifetime learning as common properties of exemplary teachers.

The findings of the study also showed that, only nine out of 17 teachers stated formal education contributed to their professional development in integration of technologies. These findings might indicate that effectiveness of the technology integration courses needs to be examined and should be inline with the subject area teaching rather than being isolated.

5.5.2. Benefits for Teachers

Investigated teachers mentioned various benefits for teachers of using technologies in education. The emphasized benefits were from most frequently stated to less frequently stated are as follows; taking less teacher's time, making teachers' responsibilities easier, increasing teacher's motivation, and not exhausting teachers. Similarly, Kulik (1994) found that the amount of required time for students to learn basic skills may be decreased by using computer based instruction. Although some of studied teachers and some researchers mentioned about the use of technologies in educational settings take less teacher's time, there are counter arguments e.g. Ringstaff and Kelly (2002) pointed out "[i]ntegrating technology into instruction is a difficult, time-consuming process; only those teachers who believe that technology use will lead to significant benefits for their students will undertake the associated challenges" (p.16). In addition, some of the studied teachers positive perceptions about technologies role in teaching environment could be attributed novelty effect of technologies (Clark, 1983).

5.5.3. Criticisms about not Using Technologies for Personal / Professional Usage

Teachers mentioned various confessions about not using technologies. Some of them are from most frequently stated to less frequently stated are as follows; not using available resources of the school, teaching grammar although they believe it is wrong (in other words they are lecturing or not creating student-centered teaching environments), being lazy, and lack of interest in using technology. These confessions were mainly made by public high school English teachers. Indeed, only one private high school English teacher considered herself lazy but, teachers who say "teaching grammar is wrong but we do", teachers who admitted that they do not have interest to use technologies, and teachers who considered themselves lazy are all from public high schools. The enthusiasm of the teacher is important ingredient in teaching environment, as Becker (2000) pointed out when teacher has lack of interest in learning the subject matter they teach, it may be unlikely to develop effective and exemplary practices using computers in their classes. In addition, the high confidence in the educational technology knowledge may not result with a high level of use of technology in the classroom (Russell et al. 2003). For that reason, once more, there should be a shared vision among teachers and administrators about using technology in teaching environment. In addition, almost all of the studied teachers had positive beliefs about the benefits of using technologies but the evidence showed that some of them lost their interest to use in their teaching environment. Showing the benefits of the use of technologies in real educational settings in a training program may help to develop the level of teachers' interest on the use of technologies in their teaching. In other words, teachers' lack of interest may be due to lack of knowledge on the use of technology in teaching environment.

5.6. Social, Ethical, Legal, and Human Issues

Teachers should consider various factors related with the social, ethical, legal, and human issues. For example, Swenson et al. (2005) stated that instruction and homework assignments must be suitable to the students' technological access

and expertise, so that each student, regardless of gender, economic, social, ethnic, or linguistic backgrounds, could have equal learning opportunities. However, in this study, it can be said that on the three NETS-T's "Social, Ethical, Legal, and Human Issues" indicators, most of the public high school English teachers have inadequacy of knowledge. However, most of the private high school English teachers have lack of knowledge on only one indicator. Similarly, Akbaba-Altun (2004) conducted a study in Turkey and found that although school principals should know how to deal with ethical issues emerging with IT classrooms; neither school principals nor computer coordinators mentioned any expected roles about ethics. Likewise, there are various researchers who emphasized the importance of social, ethical, legal, and human issues in technology integration. For example, Swenson et al. (2005) stated that teachers should teach equity and diversity issues to their students and enable them to consider these issues during their technology applications. In addition, teachers and teacher educators should consider the plagiarism, ownership, and authorship issues in their classrooms. Another researcher, Roblyer (2006) defined major kinds of legal and ethical issues as viruses/hacking, privacy/safety, copyright, and illegal download/software privacy. Additionally, some researchers found training on these issues as inadequate e.g. Swain and Gilmore (2001) re-examined their teacher education schools' Copyright and Computer Ethics units. At the beginning of the study they revealed that their students were "able to identify situations where it was legal to download and use music and situations where it was not legal" (p.542). They also emphasized that "not only were our students uninformed about the topic of copyright, specifically on the Internet, but many of our colleagues were as well" (p.542).

The situation about social, ethical, legal, and human issues in this study may be explained simply as, if technologies are not used much, it must be normal that teachers may have limited knowledge about social, ethical, legal, and human issues about using them. In addition, as stated above the problem is observed in many places. For example, Suarez and Martin, 2001 stated that knowing that plagiarism has taken place since the beginning of organized education, it will be likely that there will be students who plagiarize. Providing teachers with suitable training

environments may enable teachers to be aware of the social, ethical, legal, and human issues about using technology in teaching or they may learn things about the social, ethical, legal, and human issues while they are using technology in their teaching..

5.7. Support

Making schools richer and more exciting places for students and teachers could not be achieved just by putting technology in schools. Teachers should be empowered to use these technologies effectively (CEO, 1999; Ozdemir & Kilic, 2006). In other words, with the sufficient access to technology, support is also important in the encouragement of the teachers to integrate technology into their teaching. For example, Zhao et al. (2002) stated that "[w]ith good support and easy access, even teachers who are not pedagogically, technically, or socially strong can carry out classroom technology innovations" (p.508). All of the studied teachers believe that administrations of the schools generally have positive behaviors on the usage of technologies in the educational setting. Some of the mostly stated teachers' opinions about administrative support on using technologies are from mostly stated to less stated are as follows; administrations' thoughts are in the same direction with the teachers, administrations' support depends on budgetary resources of the school, administrations provide support to use technologies in teaching environment, provide technical support, teachers needs about technology usage are supplied, and administration does the things that could be done.

It is known that supportive school environment is important for successful technology integration (Zhao et al., 2002). And, teachers included in the study believed that school administrators had positive attitudes about the use of technology in teaching environment. However, only studied private high schools had technical support group and three of the public high schools had a teacher trainer but they were doing organization of the schools facilities like reservations for the computer labs or projection classrooms. For that reason, it can be said that administrators would be happy when teachers used technology in their teaching. It is also known that, the effective use of technology requires an adequate school and

district infrastructure and must include timely, on-site technical support (Becker, 2000; Penuel et al., 2000; Ringstaff & Kelley, 2002; Sherry et al., 2000; Means et al., 1990). If the equipment is unreliable even teachers who enjoy using computers may stop using technology (Ringstaff & Kelley, 2002; Kleiman 2004). Indeed, inadequate or lack of technology support found to be major barrier to technology integration by many researchers (e.g. Ringstaff & Kelley, 2002). By having effective on-site technical support, teachers focus could totally be directed to their instruction (Sandholtz & Reilly, 2004). As the importance of the on-site technical support by many researchers, an effective and efficient on-site technology support mechanism could be provided to schools to solve the emerged technology problems immediately.

Instructional support may be as essential as technical support when teachers begin using technology for more sophisticated purposes (CEO, 1999; Ringstaff & Kelley, 2002). In other words, teachers' individual requirements for mastering new methods, knowledge, and techniques deserve particular attention (CEO, 1999). Nevertheless, there was a teacher trainer only in three of the studied schools. An effective support system in schools may help teachers on instructional support when they needed it or encourage them to apply new technologies to their teaching with the assistance of the support group.

There were also some negative opinions like no support for English lessons and administrators support but do nothing. Similarly, Ozdemir and Kilic (2006) pointed out that there were some principals negative in their attitudes towards ICT in schools. Teachers especially in most of the studied public high schools were not using technology in their teaching and administrator behaved as they support the use of technology in their school. When teachers started to use technology more often, administrators' real attitudes about the use of technology in educational settings could be understood.

When school types compared, it can be said that private high school English teachers pointed out that they have adequate support related with the use of technology. The interesting finding is that, none of the private high school English

teachers mentioned about needs were met but, almost half of the public high school English teachers declared this. The explanation for that private high school English teachers use more technology in their lessons so they may want more support and technology from the administration, for that reason they may not happy from the available support. The support could be developed not only in private high schools but also in public high schools to enable teachers to use technology in their teaching environment or a budget for the support services could be provided to the schools to solve the lack of adequate support problem.

5.7.1. Administrators' Point of View

MoNE is trying to increase number of educational technologies in schools. In MoNE (2005) report, it is stated that ICT hardware and software will be provided to each public school including primary schools and a safe and fast Internet connection will be set to each public school. Similarly, administrators included in the study mentioned that schools have various technologies for administrative purposes. Indeed, administrators have very important role in effective integration of technology into education (Robbins 2000; Wilmore & Betz, 2000; Akbaba-Altun, 2004). All of the investigated schools have at least a computer laboratory but, only one private and one Anatolian high school had computers and some other technologies ready for teachers' usage in all of their classrooms. On the other hand, Ertmer, Gopalakrishnan and Ross (2001) carried out a study to compare perceptions of exemplary technology user teachers. The studied schools' classroom technology resources were ranging from student: computer ratios of 1:1 to 12:1. From this finding, it can be said that the investigated high schools still need more technology to be able to reach acceptable students: computer ratio. Finally, the available technologies are generally present for teachers use. Indeed, only four out of 17 investigated schools have technologies for students use. In addition, increasing the number of available technologies in schools may help to have student-centered teacher environments.

5.7.1.1. Deficiencies of Schools

Deficiencies of the schools were mentioned by regular and vocational high school administrators and also one Anatolian high school administrator. The expressed deficiencies from most frequently stated to less frequently stated were as follows; inadequate technologies in school, limited school resources, shortage of classroom in school, shortage of basic needs like meeting room, too loaded classrooms, and inadequacy of administrative staff (to do administrative issues). In her study Akbaba-Altun (2006) found similar problems like inadequacy of finding suitable places for IT classroom, lack of classrooms, and shortage of basic needs like cleaning and heating. The private schools case is obvious as they have more resources, so it is normal that their administrators did not mention any deficiencies in their school settings. In addition, Anatolian high schools may be provided with more resources compared to regular and vocational high schools. Similarly, Macneil and Delafield (1998) defined main inhibitors to implementing technology in the classroom as lack of time for professional development and planning and lack of financial resources for hardware, software, and infrastructure. To have fully technology integrated schools, first of all their needs should be met. Additionally, providing a reasonable budget might be given to schools for updating their technologies and solving any kind of unpredicted problems. Similar recommendations were made in a MoNE (1996) report; projects for the renovation of all the educational buildings should be developed and applied periodically.

5.7.1.2. Technology Usage Procedure

Coordinating usage of technologies among school teachers is an expected role from school principals by MoNE. To solve problems and provide an equitable and easy access to requesting teachers are among the duties of schools principals (MoNE, 2001). In addition, there were computer coordinators in some public high schools but, Akbaba-Altun (2004) found that there is a lack of coordination between computer coordinators and other teachers in schools from time to time.

The administrators included in the study explained the available technologies usage procedures in their schools. The procedures from most

frequently stated to less frequently stated were as follows; teachers need reservations to be able to use available technologies, teachers requests are met, alternatives is looked for when problem emerge, teachers need informing administration to be able to use technologies, teachers make arrangements, technological support is available in school setting, teachers are able to use technologies if not busy, teachers should solve the emerged problems by themselves, and justification is needed to be able to use technologies. And one administrator admitted that "I do not know how teachers manage the use of available school resources among themselves".

There were differences among studied private and public high schools. For instance, all of the private high schools have technological support but, only three of the 13 public high schools have a kind of technological support (e.g. teacher trainer). On the other hand, "informing administration to be able to use technologies", "teacher makes arrangements", "able to use technologies if they are not busy", and "teachers solve the problems by themselves" are all mentioned by public high school administrators. Unlike what public high school administrators say, expecting teachers to use technology without effective and on-time technical support may not be possible. Because, having technological support is important in technology integration and usage in classroom (Becker, 2000; Ringstaff & Kelley, 2002; Zhao et al., 2002). In addition, some of the studied teachers did not want to spend much time on technology problems but, some of these public schools' administrators' statements show that to be able to use available technologies, teachers go for some time-consuming formalities like making arrangements or informing administration. Easy access is a critical indicator in technology integration (Macneil & Delafield, 1998; Ringstaff & Kelley, 2002). For that reason, some bureaucratic issues may be removed to free teachers from time-consuming activities to enable them to use available technologies easily.

In addition, Ozdemir and Kilic (2006) stated that "many of the principals kept the ICT classrooms under lock and key to protect against theft, damage or improper use of the computers, printers, scanners, video equipment and multimedia

software"(p.910). The investigated administrators did not mention about such issues but they pointed out some burdening procedures to be able to use technologies such as justification of the reasons. Removing these procedures may encourage teachers to use technology in their teaching when they intended. In addition, teachers may be able to use technologies whenever they want as some of the studied teachers pointed out when technology were available in each classroom of the schools. In other words, when technology was provided in each classroom, the burdening procedures will automatically be removed.

5.7.1.3. Benefits of Using Technologies

In the technology integration process, the right question should be "under what conditions does technology have the most benefits for students?" rather than asking, "Is technology worth the cost?" (Ringstaff & Kelley, 2002). Similarly, Macneil and Delafield (1998) stated that according to some principals, technology is very important in their schools and it is significantly important for teachers to learn technology as a curriculum tool. Most of the investigated administrators also pointed out technology usage in educational settings had many benefits. The mentioned benefits from mostly stated to less stated were as follows; providing audio-visual help, increasing students' motivation, helping to create student centered environment, saving teachers' time, causing more permanent information on students, helping to create interesting learning environment, helping teachers in their teaching, bringing opportunities to the classrooms otherwise impossible, making students to search for information, and making communication easier among students, families, teachers, and administration. Many researchers mentioned that the beliefs of the teachers play an important role in technology integration (Sandholtz, Ringstaff, & Dwyer, 1997; Russell et al., 2003; Hughes, 2004), to have administrators who have positive thoughts about the use of technology in educational settings is also an important point. Although technology was not commonly used in the studied schools especially in the public high schools, studied administrators mainly mentioned about the benefits of using technologies in teaching. This could be explained by Clark's (1983) novelty effect of the technology. In addition, these administrators may have not witnessed the results of

technology applied teaching so they mentioned mainly positive effects of using technologies.

5.7.1.4. Administrators' Perceptions of Teachers' Technology Usage

Teachers need to update their technology skills and knowledge to stay abreast with the current and emerging technologies. To have teachers, who have current technology abilities, school administrations "must make substantial investments to ensure continuous teacher learning and skill acquisition" (CEO, 1999, p.10). Similarly, MoNE (2001) in regulation number 53 pointed out expectations from school administrators as; to use schools' technologic equipments for the purpose of teaching and learning; to provide support for the teachers and computer coordinators; to use technological materials suitably, efficiently, effectively, productively, intensively, and extensively; to have the school connected to the Internet and use the Internet technologies; and to improve ways to provide technological support to technology users. Most of the administrators included in the study want teachers to use available school resources in their lessons. Some of the administrators' comments on teachers' technology usage from most frequently stated to less frequently stated are as follows; teachers should learn how to use technologies then apply them in their teaching, technology education should be given to teachers, infrastructure should be provided by administration, teachers need time to learn effective use of technologies, some education related to technology usage is given, video should be used more in education, and teachers should have technology in their homes.

School administrators could increase technology usage in teaching environment by providing relevant staff development activities, on-site computer coordination, inservice training for teachers, curriculum development, technologically rich instructional classrooms, and organizing access to computers (Becker, 2000; Akbaba-Altun, 2004). In other words, school administrators "should incorporate appropriate professional development with technology at every opportunity" (CEO, 1999, p.10). Similarly, Wilmore and Betz (2000) stated that "IT will only be successfully implemented in schools if the principal actively supports

it, learns as well, provides adequate professional development and supports his/her staff in the process of change" (p.15). In addition, teachers need to be taught how to use technology to deliver instruction and this is a critical factor in the successful implementation of technology in schools (Ringstaff & Kelley, 2002). Moreover, Akbaba-Altun (2004) found that MoNE and computer coordinators have similar expectations from school principals as "cognitive (having knowledge) and affective (have positive attitudes toward IT) levels" (p.263). These studies show the importance of the training need of the teachers. Likewise, the most of the studied administrators were aware of the need for teacher training, free time for teachers development activities, the accessibility of technologies to have successful technology integration.

Availability of educational technologies in schools is a necessary ingredient in technology integration. In addition, as some of the administrators pointed out having educational technologies in teachers' homes is also important contributor for technology integration. Similarly, Ringstaff and Kelley (2002) pointed out that "[t]eachers who have computers at home have more time not only to learn to use technology, but to become more comfortable with it" (p.20). Moreover, MoNE is aware of the importance of teachers having computers. For that reason, MoNE made many initiatives to have teachers obtain a personal computer in their homes. But having technology in schools and homes may not guarantee teachers' technology integration in schools (e.g. Maddux & Johnson, 2005); there should also be accessible training options for all of the teachers who desire to learn things about technology usage in teaching.

As studied administrators, Macneil and Delafield (1998) proposed that while preparing professional development plan for integrating technology into the curriculum, necessary support should also be given so that school or faculty has access to computers during instruction time and planning time. Similarly, Akbaba-Altun (2004) stated that principals admit following duties as their responsibilities; the need to support and provide guidance for teachers who use and would like to use IT classrooms; to replace technological materials or getting the repairs done in

IT classrooms; to make sure students get the most out of IT classrooms. Likewise, some of the investigated teachers admitted providing necessary technology infrastructure for the use of teachers as one of their responsibilities. They also mentioned about their limitations like the inadequacy of the school budgets, ministry's unwillingness to their requests, or lack of administration staffs. For that reason, a reasonable budget defined by considering total number of the students in the schools and schools' current facilities for the expenses of the schools may be allocated to schools' administrations to overcome these kinds of problems easily.

Finally, difficulty in protecting technologies in classrooms and low students ability levels were only stated by public high school administrators. Similarly, Akbaba-Altun (2004) found that the security issues on protecting schools' technology resources were problem for school administrators. To prevent technology resources from any harm, necessary education and information to students may be given.

5.8. Wishes about technologies

This study showed that most of the studied teachers and administrators want to have technologies in their classrooms or something related to having available technologies and materials. In other words, they want classrooms with some sort of technology and suitable/relevant teaching environments. As Ringstaff and Kelley (2002) pointed out teachers may feel more confident and competent in using computers and spend more time on using the computers when they have computers in their classrooms. To have classrooms with educational technologies necessary / sufficient budgets may be provided to these schools. As Robbins (2000) pointed out successful technology integration requires substantial financial support for technology through various sources.

Although there were not clear differences among high school English teachers, there were some differences among high school administrators. Private high school administrators only mentioned about having technologies in each classroom, providing teachers with technology to enable them to use whenever they

want, and smart board in their schools. Their wishes were about having future technologies and more technology usage in classrooms but some of the public high school administrators' wishes were about obtaining schools' basic needs. While many countries trying to increase students/computer ratio, none of the investigated administrators mentioned about it.

5.9. Technology Integration Guidelines

Many things could be done to fully integrate technology into educational settings. The proposed guidelines could be overlapping at some points. In addition, they may not be done with the same sequence in each high school. The emphasized guidelines are based on the investigation of 17 high schools from the capital city of Turkey, Ankara and the related literature. Although different types of schools from different parts of the Ankara were chosen to increase the representativeness of the sample for the population, the recommendations are mainly based on these studied schools and may not be generalized. Furthermore, related literatures were also analyzed to propose these guidelines. However, they should be refined with the findings of future studies. The proposed guidelines have four main components. These are; (1) shared technology integration vision, (2) teachers' professional development and support, (3) budgeting for appropriate technological and material facilities, support, and professional development, and (4) curriculum issues. Figure 5.1 shows the main components of the guidelines.

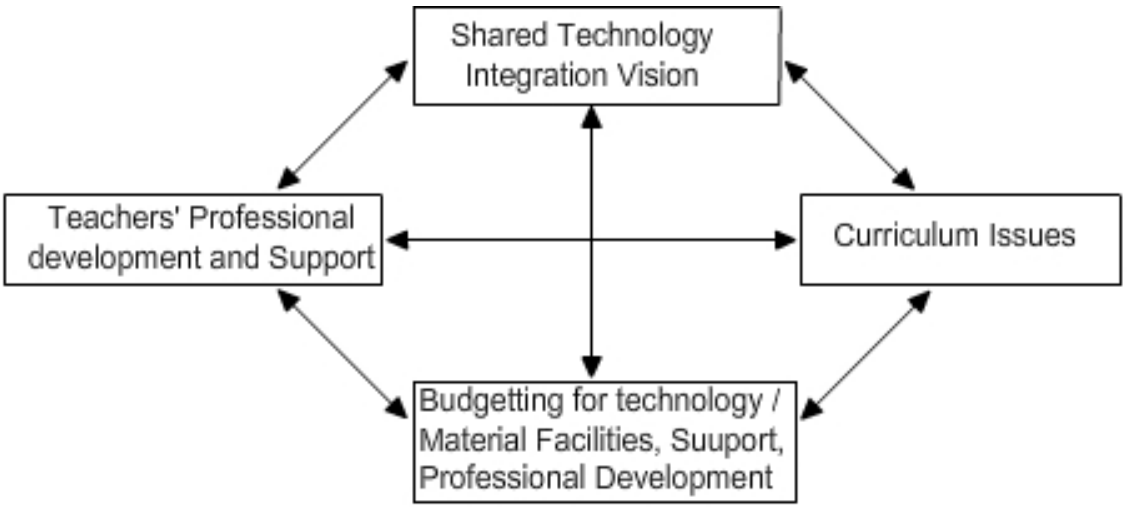

Figure 5.1: Main Components of Technology Integration Guidelines

5.9.1. Shared technology integration vision

A shared vision for technology integration should be obtained (Robyler, 2006): Technology integration in high schools requires all parties' involvement during the whole process. Turkey has a very hierarchical educational system; first of all from the MoNE, to local principals, to school administrators, to single teachers, to the schools technical experts all related staff should believe the benefits of technology integration. Indeed all of the studied high school English teachers see technologies as beneficial for their teaching environment. To know/accept the benefits of technology in education may not be enough, the interested parties should be willing to do the responsibilities given to them. During the study it was observed that most of the public schools had problems like inadequacy of the administrative staff, shortage of technologies, or inappropriate teaching environments (e.g. crowded classrooms). These problems may be solved by the coordination of MoNE, local principals, parent school associations, etc… It was also concluded that some of the studied high school English teachers have inadequacy of knowledge about the use of technology in teaching. This problem may be solved by giving inservice training for the current teachers by MoNE or making necessary adjustments for preservice English teachers by HEC. The above mentioned problems may be solved

with a shared vision for technology integration into education. As Kleiman (2004) stated a clear vision of goals and well-developed plans for achieving technology integration is required to maximize investment in technology. The necessary reforms could only be made when there is an accepted vision among all parties. As Ringstaff and Kelley (2002) emphasized technology "will have little impact without accompanying reform at the classroom, school, and district level" (p.11). For that reason, field (English language teaching) specific technology integration policies/plans should be developed by considering all of the related groups' desires.

Teachers' technology usage standards should be developed and made compulsory: the studied high school English teachers were graduated from universities after 2001 and expected to have basic technology knowledge and technology usage abilities in their classrooms. However, most of them have inadequate knowledge on some parts' of both areas. In the study, there were teachers who even did not use e-mail at all or rarely used it. For that reason, to have teachers who have knowledge on basic technology and ways of using technology in teaching environment a nationwide technology standard may be developed and made compulsory for all of the teachers. Indeed, in MoNE (2006) report general qualifications of teaching profession defined. These qualifications include necessary knowledge, ability, and behaviors to be able to act effectively and fruitfully as a teacher. In this qualification report, there are many sub-topics and each sub-topic has various indicators which are accepted as behaviors for proving whether teachers have necessary qualifications or not. Although there are many indicators indirectly connected with the usage of technologies, there are also many directly connected indicators for using technology in educational settings. These indicators related with technology usage could be collected and arranged under some categories to define a national technology standard for teachers, like the International Society for Technology in Education's National Educational Technology Standards for Teachers (NETS-T).

Schools standards should be developed and achieved throughout the country: As seen in the study and Grant et al. (2005) pointed out insufficient access

to technology may discourage teachers to integrate technology effectively into instruction. A minimum technology standard for schools may be developed (e.g. student computer ratio, technology/material facilities, number of laboratories, etc…) so that competent teachers could be able to reach technologies when they planned. There were too crowded classrooms and too loaded teachers in the observed public high schools. The number of teachers' lessons in a week and the number of students in classes may be decreased to a reasonable number by this standard. There were also big differences among public high school facilities, while one of the public high schools had a computer, a TV, and a VCD player in each of its classrooms, another public high school had classrooms with broken doors, and another public high school did not have a computer in teachers' room. For that reason, as MoNE (1996) report suggested a standard for the classrooms may be developed and facilities and tools of the classroom may be arranged according to the requirements of the lessons.

5.9.2. Teachers' Professional Development and Support

Continuous teacher training should be organized: Some of the studied teachers seemed to have not enough knowledge on basic technology knowledge and usage of technology for instructional purposes. There were even teachers who were not using e-mails as communication tool. In addition, the technologies used in education and in people's daily life are changing with a rapid speed. For example, a few years ago, smart board technology was very expensive and it would be difficult to buy and use for educational purposes in high schools but now there were a regular high school administrator who want to have smart board for her school. According to a number of studies (e.g. OTA, 1995; Sandholtz & Reilly, 2004) technology has little effect unless teachers are adequately and appropriately trained. For that reason, continuous teacher training opportunities may be developed to make teachers' technology knowledge and ability current.

Teachers need to be taught how to use technology to deliver instruction: It is a widely accepted fact that knowing how to use technology is not enough to have successful technology integration. Studied teachers also mentioned some reasons

related with pedagogical problems such as difficulty in classroom management and difficulty in finding suitable materials. Moreover, very few teachers mentioned about computer applications while talking about used tools in classrooms. To be able to choose the best alternative for their students, teachers should be aware of the benefits of using all kinds of technologies in educational setting. Teachers should know which methods work where, under what conditions. In other words, there is no need to reinvent the wheel. Teachers should feel safe while using technology in their teaching environment. In addition, methods and strategies in teaching environment are changing slightly as years passes. For that reason, as Ozdemir and Kilic (2006) proposed for primary schools, there should be a continuous training for high school English teachers in the theory, pedagogy and technological aspects of ICT integration in high schools. As Roberts, Lemke, and Myers (1999) pointed out teacher technology training may be combined to other efforts to improve teaching and should be integrated into content and skill areas.

There should be pedagogical support: Teachers sometimes need in-depth sustained assistance while they intended to integrate technologies into their curriculum and confidence between traditional methods of instruction and new pedagogic methods that make extensive use of technology (CEO, 1999). However, there were very few pedagogic supports in studied schools; only there were some applicator teachers in some public high schools. Indeed, they were mainly doing reservations and allocations of the school facilities rather than guiding teachers in their technology applications during teaching. Moreover, literature also emphasizes that teachers have begun using technology for more sophisticated purposes, instructional support is as essential as technical support (e.g. Means et al., 2000; Sandholtz & Reilly, 2004). To enable teachers to feel safe while using technologies in their lessons an on-site pedagogical support may be provided in high schools.

5.9.3. Budgeting for technology / materials facilities, support, and professional development

Access to hardware, software, and other resources should always be available in each setting: There were teachers who have enough basic technology knowledge and ability to use technologies in their teaching environment but, almost all of the studied high school English teachers saw inadequacy of tools in classrooms as the main reason for not using technology in their lessons. There were computers in each of the classroom only in two of the visited high schools. Moreover, almost all of the studied English teachers want to use technologies more frequently than the time the study was done in their teaching environment. For that reason, technologies may be under the control of teachers in classrooms to enable them to use whenever, whatever, and how long they want.

Schools should have enough budgets for maintenance of failure: In addition, all of the investigated schools had some technologies but just buying technologies could not be enough to use them in teaching. There were public high schools whose computers were broken or needed upgrading. As Ozdemir and Kilic (2006) suggested, having a continuous budget may enable public schools to follow current developments in educational technology and replace schools' old technologies. Besides, the student: computer ratio should be increased (Ozdemir & Kilic, 2006) as in very few of the investigated schools there were computers left to students to use when they want. Indeed, only two of the schools had computers and other technologies in each of their classrooms. For that reason, a reasonable budget defined by considering schools' current facilities may be allocated to enable high school administrators solve emerged technology problems immediately or replace the broken ones.

Technical and instructional support should be available when needed: most of the high school English teachers included in the study were preparing technology facilities themselves to be able to use in their lessons. In studied public high schools mainly there was no timely, on-site technical support to handle emerged problems immediately. In addition, seven of the studied teachers accepted that they felt

difficulty of arranging available technologies and they had difficulty in classroom management when technology was used. On the other hand, literature says that teachers should focus on their instruction when they planned to use some technologies in their classrooms (e.g. Zhao et al., 2002; Sandholtz & Reilly, 2004). In addition, the effective use of technology requires an adequate school and district infrastructure and must include timely, on-site technical support (Means et al., 1990; Becker, 2000; Penuel et al., 2000; Sherry et al., 2000; Ringstaff & Kelley, 2002). For that reason, an on-site technical and instructional support may be available when teachers needed.

Schools should be able to provide suitable environment for technology usage: first of all, most of the investigated public schools were too crowded. Trying to use technology in crowded classrooms may cause classroom management problems as some of the investigated high school English teachers pointed out and protecting the tools from any harm would be difficult. Moreover, especially public schools had problems in schools architectural structure. Inadequacy of the classrooms and unsuitability of the classrooms to place technologies in them are mainly stated by most of the studied high school administrators. Technology integration may require some structural adjustments in school settings. Similarly, classroom designs may need to be adjusted to place technologies and to increase benefits of using technologies.

Appropriate instructional/learning materials library should be provided: by filling classrooms with technologies may not guarantee to effective technology integration (e.g. Maddux & Johnson, 2005). As MoNE (1996) report suggested each classroom should be equipped with the necessary materials and equipments that the content of the subjects require. In other words, the high school English teachers could easily reach various educational resources and materials for their teaching environment. In addition, to obtain educational materials requires an amount of budget and this budget should be provided to the schools' principals. In addition, these materials might easily be obtained when there is a educational materials library in school setting.

There should be a reasonable budget left for teachers' professional developments: according to some researchers (e.g. Kleiman, 2004), teachers are not given adequate training and support for integrating technology into their day-to-day classroom instruction. Similarly, most of the studied high school English teachers did not mentioned about taking inservice training during their teaching period. And according to the Schacter (1999), when teachers were trained in the use of technology, greatest gains in student achievement could be obtained. As Ozdemir and Kilic (2006) emphasized, if every school were systemically provided with in-service training and made responsible for integrating technology into the new approaches to teaching and learning, the technology integration could be achieved. For that reason, a reasonable budget might be given to high schools to spend for teachers' professional developments.

5.9.4. Curriculum Issues

Curriculum should be suitable to technology integration: Technology usage in classrooms may require curriculum flexibility. The curriculum is made by MoNE in Turkey and teachers are expected to obey them. All of the subjects for each course are defined and teachers pass each of them during the semester. Teachers have very little opportunity to alter them. Maybe for that reason, most of the investigated teachers complained about being too overloaded and having time-wise problems. Moreover, most of the investigated teachers seemed to be in a hurry to follow the planned program. For that reason, providing a flexible English curriculum which gives freedom to teachers on choosing the topic, material, content, or excluding some topics may increase high school English teachers' use of technology in their teaching.

Learner-centered curriculum should be developed: technology usage mainly requires student-centered learning environments (Benson, 2001; Ertmer, Gopalakrishnan, & Ross, 2001; Harris, 2005; Levin & Wadmany, 2005). Although many improvements tried to be achieved to create learner-centered teaching environment in Turkey (Ersoz et al., 2006; Sahinel et al., 2006; Kirkgoz, 2007) and most of the investigated teachers accept the importance of students-centered

teaching environment, even in the investigated high schools, it is hard to say that most of the studied English teachers use student-centered teaching strategies. Indeed, most of the studied teachers were lecturing in their lessons. As stated before, most of the studied teachers mentioned about too overloaded programs, time-wise problems, and difficulty of classroom management but student-centered teaching environment may require flexible content (Harris, 2005), time period, and relatively small number of classes as Ertmer (1999) pointed out managing technology resources in student-centered classrooms could be a difficult task for teachers. By developing student-centered curriculum and suitable teaching environments for student-centered teaching, teachers may be encouraged to use technologies effectively in their teaching.

Materials should be developed and accessible to teachers: Finding various and suitable materials is necessary for technology integration (Agar, 2006). Teachers could be able to use various materials for various settings easily to have successful technology integration (Bork, 2003; Agar, 2006; Teo, Lee, & Chai, 2007). In other words, teachers' inclinations about using technology should not be lost with the inadequate teaching materials. For that reason, as Ozdemir and Kilic (2006) proposed for Turkish primary schools, a flexible and student-centered curriculum with various kinds and different types of available resources should be provided to high school English teachers.

Curriculum should be based on contemporary FLE theories and approaches: The primary level ELT curriculum and (Ersoz et al., 2006) secondary level ELT curriculum (Sahinel et al., 2006) were developed by a team of Turkish experts to adapt them to EU standards. According to Kirkgoz (2007), the new curriculums include detailed theoretical information on various aspects of the ELT including, distinction between language acquisition and language learning, selection of appropriate teaching materials for different grades, curriculum design issues, assessment of student through performance-based items, etc… There were complaints about the previous English curriculum by some of the studied high school English teachers like covering to many topics. After the new curriculums

applied, required changes could be made again by a group of experts to follow related literature and developments in English language teaching with the supervision of MoNE.

5.10. Conclusion

The MoNE has been trying to integrate technologies into the Turkish education system for many years. During this integration period many actions have been taken such as integration of the technology courses into the teacher education programs, providing schools with computer laboratories, developing educational materials, providing Internet connections, and supplying teachers an opportunity to enable them to have a personnel computer. More actions are under consideration such as providing some technologies to every public school, providing fast and reliable Internet connection to every public school, and converting curriculum to students-centered ones. These improvements could be accepted as necessary; require long term planning and commitment. As Kleiman (2004) pointed out "[f]or technology to be used fully in K-12 schools, significant changes are required in teaching practices, curriculum, and classroom organization; that these changes take place over years, not weeks or months, and require significant professional development and support for teachers; and that the needed levels of training and support change as teachers progress through these stages" (p.4).

This study aimed to examine current instructional technology knowledge of high school English teachers; how they use instructional technology in their courses; how they use technologies to develop professionally; and to prepare technology integration guidelines to enable them to use instructional technology in their courses.

First of all, this study showed that the most of the studied public high school English teachers basic technology knowledge was not in the expected level although they have graduated by getting instructional technology courses. Moreover, teachers included in the study classified according to the CEO forum and public high school English teachers were found to be in the adoption stage.

Although the studied teachers have graduated from relatively similar universities and have relatively similar backgrounds, these results may be attributed to teachers' personal interests, schools facilities and policies, requirements for being a teacher in the studied schools, or cultures of the studied schools. These findings may have also showed that there might be a problem in having technology literate and technology applied teachers in Turkish national educational system. In other words, as Ertmer, Gopalakrishnan, and Ross (2001) emphasized "[i]t is fairly clear that some discrepancy exists between what is advocated in the literature and what occurs in schools, even in classrooms perceived to be exemplary" (p.21). These teachers have taken technology courses in their education period for that reason there may be a problem in teacher education period as many researchers (e.g. Roberts, Lemke & Myers, 1999; Ertmer & Hruskocy, 1999; Ringstaff & Kelley 2002; Graham et al., 2004; Toker, 2004) pointed out.

Although most of the teachers included in the study have problems in technology knowledge and abilities, almost all of them had some knowledge on the planning educational environments by integrating technologies. However, some of the public high school English teachers' considerations while choosing and applying technologies and materials were limited. Indeed, successful technology integration requires developing and entertaining various key questions to decide how, when, and whether to change an activity, lesson, or unit by incorporating technology (Young & Bush, 2004). In addition, most of the public high schools mentioned narrowly about the material sources that could be used in technology rich teaching environment. Nevertheless, as Glennan and Melmed (1996) emphasized teachers could be able to select, adapt, or design various technology-enhanced materials that meet the different needs of their students. The studied teachers were aware of the use of educational technologies in teaching environment but some of them were not ready how to use technologies and implement them in their teaching.

Although only a few of the studied teachers had problems on the planning educational environments by integrating technologies, some of the investigated

teachers had problems in the NETS-T's "Teaching, Learning, and the Curriculum" indicators especially, vocational and regular high school English teachers. Educational technologies could be used for various kinds of problems and purposes as Roblyer (2006) pointed out. In addition, it can be said that private high school English teachers highlighted more and different purposes which aim developing students' higher order and critical thinking skills then public high school English teachers. Moreover, most of the public high school English teachers highlighted using technologies to develop students' basic facts or skills. Private high schools' right to adjust the applied curriculum may have caused this difference as public high school English teachers have to apply the MoNE's curriculum.

Most of the teachers included in the study mentioned about creating student-centered teaching methods while using educational technologies as emphasized in the literature (e.g. Becker, 2000; Ringstaff & Kelley, 2002). However, some of the studied English teachers also accepted that they were currently teaching grammar even though they knew it was wrong as observed in their teaching. In addition, teachers included in the study were mainly using guided activities. Moreover, private and Anatolian high school English teachers were applying more teaching strategies than regular and vocational high school English teachers. There are more English lessons in private and Anatolian high schools than regular and vocational high schools in a week; this may be a reason for this difference as when teachers have more time, they may apply different strategies which require longer time periods. Additionally, most of the teachers included in the study were aware of the fact that technologies should be used when suitable as CEO forum (1999) reported. They also consider some points like security and carefulness while using technologies. Furthermore, they mentioned about the benefits of using technologies in educational settings rather than difficulties or week points. Although teachers' positive thoughts about technology usage are required necessity for successful and effective technology integration (Sandholtz, Ringstaff, & Dwyer, 1997; Russell et al., 2003; Hughes, 2004), it may be expected that the studied teachers mention about the difficulties or weak points of technology applications.

Most of the teachers included in the study have inadequacy of knowledge about the use of technology in evaluation, especially public high school English teachers. In addition, private and Anatolian high school English teachers were using projects, presentations, homework, and quizzes for evaluation more than regular and vocational high schools English teachers. This may show that private and Anatolian high school English teachers integrated technologies to evaluation of their teaching better than regular and vocational high schools English teachers. As Kleiman (2004) pointed out technology integrated lessons may require students using simulations, searching for information on the Web, and preparing reports and presentations using word processors, databases, computer graphic tools, and multimedia presentation software. This may also help to explain why expectations of private high school English teachers from student were more than public high school English teachers. To expect high school English teachers to use technologies for the purpose of evaluation, teachers should have been using technologies in their teaching already but, most of the time that was not the case.

Continual professional development is important for teachers as the CEO forum (1999) emphasized it is an ongoing, long-term commitment that begins with the decision of having a career in education and continues for the duration of a career. Similarly, some of the teachers included in the study get benefit from technologies to develop professionally and personally. However, private high school English teachers have more knowledge on NETS-T's "Productivity and Professional Practice" indicators. In addition, there are various methods to develop personally and professionally as studied teachers and various researchers pointed out (e.g. Ertmer & Hruskocy, 1999; Becker, 2000; Akkoyunlu, 2002) like using internet, following seminars, or having formal education. Nevertheless, private high school English teachers were applying more methods to develop professionally and personally than public high school English teachers. Additionally, more than half of the studied teachers wanted to develop their basic technology knowledge and technology usage in their teaching. Indeed, having strong personal interest in computing activities and a greater personal commitment to lifetime learning is seen as common properties of exemplary technology user teachers (e.g. Becker, 2000).

Furthermore, some of the studied teachers acknowledged educational technologies as supporter for their teaching like some of the researchers pointed out (e.g. Kulik, 1994; Ringstaff & Kelly, 2002). However, although enthusiasm of the teacher is important ingredient in technology integration (Becker, 2000), some of the studied teachers confessed that they had lack of interest to technologies especially, public high school English teachers. These confessions may explain the studied private high school English teachers' enthusiasm about the development of personally and professionally. In addition, some technologies have been used in studied private high schools regularly and this may have encouraged teachers to learn new things about the use of technologies. The use of technologies in teaching were not common in most of the studied public high schools, this may have discouraged public high school English teachers to learn things about the technologies and their usage in teaching as if something is not used then no need to learn or have it. Moreover, inadequacy of the inservice training opportunities for the studied public high school English teachers may also be a reason for the discouragement to learning as, most of the studied teachers desired to learn things about the use of technologies.

Social, ethical, legal, and human issues in technology integration were found important by many researchers (e.g. Swain & Gilmore, 2001; Swenson et al., 2005; Roblyer, 2006) but, most of the studied teachers have lack of knowledge on the NETS-T's "Social, Ethical, Legal, and Human Issues" indicators, especially public high school English teachers. It can be said that most of them were not expert on the use of technologies for educational purposes so that it could be accepted as normal that they have inadequacy of knowledge on social, ethical, legal, and human issues about the use of them. The necessary information may be provided while these teachers are learning/applying the use of technology in education.

With the sufficient access to technology, support is also important in the encouragement of the teachers to integrate technology into their teaching (Zhao et al., 2002). Similarly, all of the teachers included in the study noted that school administrators support the use of technologies in teaching environment. However,

there were also some negative opinions like no support for English lessons and administrators support but nothing was done as Ozdemir and Kilic (2006) emphasized. In addition, effective use of technology requires an adequate school and district infrastructure and must include timely, on-site technical support (Means et al., 1990; Becker, 2000; Penuel et al., 2000; Sherry et al., 2000; Ringstaff & Kelley, 2002) but, there were on-site technical support group in only the private high schools. Moreover, instructional support may be as important as technical support when teachers begin using technology for more sophisticated purposes (CEO, 1999; Ringstaff & Kelley, 2002) but, there were teacher trainers only in three of the public high schools. And interestingly, although private high schools have more educational technologies and more powerful technological support group, only almost half of the public high school English teachers pointed out that their needs were met by schools' administrators. The accessibility of the on-site technical support seemed to have positive effect of the decision about the use of technologies as some of the public high school teachers complained of wasting too much time when problems occurred in technologies.

The studied schools had various technologies but only one private and one Anatolian high school had computers and some other technologies ready for the use of teachers in all of their classrooms. Similarly, only four schools had computers connected to the Internet for the use of their students. In addition, most of the vocational and regular high schools' administrators mentioned about the deficiencies of the schools as some researchers pointed out (Macneil & Delafield, 1998; Akbaba-Altun, 2006). It is a well known fact that for the successful technology integration, teachers should be able to access technologies easily but reaching technologies required some endeavor in almost all of the studied schools like taking to students to technologies room when teacher planned to use some technologies.

There were some procedures to be able to use the available schools' technologies due the limited number of them. These procedures for the arrangements of technology may easily turn to be time-consuming or burdening

efforts. In addition, there was no on-site technical support in public high schools. All of the administrators included in the study mentioned about some benefits of using technologies in educational settings and this could be an important ingredient in successful technology integration. Additionally, most of the studied administrator supported the use of technologies by their teachers. Most of them also believed that providing technologies and support were the duty of the administrators (Macneil & Delafield, 1998; Akbaba-Altun, 2004) and teachers needed training, time, and support on technology integration. Furthermore, almost all of the studied teachers and administrators desired to have technologies in their teaching classrooms and that shows their interest about using technologies whenever it is needed. For that reason, it can be said that studied teachers and administrators passed the Rogers's (1995) persuasion stage positively according to his innovation decision process.

In most of the studied schools, technology integration was not at the preferred level or needed to be developed. By considering these 17 high schools and related literature technology integration guidelines were developed to have successful technology integration in these schools. The guidelines include;

1. Shared technology integration vision
    - A shared vision for technology integration should be obtained (Robyler, 2006),
    - Teachers' technology usage standards should be developed and made compulsory, and
    - Schools standards should be developed and achieved throughout the country.
2. Teachers' Professional Development and Support
    - Continuous teacher training should be organized,
    - Teachers need to be taught how to use technology to deliver instruction, and
    - There should be pedagogical support.

3. Budgeting for technology / materials facilities, support, and professional development

- Access to hardware, software, and other resources should always be available in each setting,
- Schools should have enough budgets for maintenance of failure,
- Technical and instructional support should be available when needed,
- Schools should be able to provide suitable environment for the use of technology,
- Appropriate instructional/learning materials library should be provided, and
- There should be a reasonable budget left for teachers' professional developments.

4. Curriculum Issues

- Curriculum should be suitable to technology integration,
- Learner-centered curriculum should be developed,
- Materials should developed and accessible to teachers, and
- Curriculum should be based on contemporary FLE theories and approaches.

5.11. Implications and Suggestions for Further Research

Even though the findings of the study can not be generalized, some implications of this study can be offered. The present research results show 17 high school teachers' (graduated from university after 2001 and working in Ankara) knowledge about instructional technology, implementation of instructional technology, the issues related with the usage of these technologies, the ways to develop professionally by using these technologies, and technology integration guidelines to enable high school English teachers to use technology in their

teaching. Study also demonstrates teachers' analysis with regard to NETS-T and stages according to the CEO forum (1999) classification. This study also shows the studied administrators' approaches about the use of technology in teaching. Finally, technology integration guidelines were prepared based on the study's findings and related literature. In other words, the findings of this study illustrate a sample teachers' (have taken instructional technology courses) current positions on technology integration process. And these findings may be used by MoNE to see the technology integration process results and applications in a real sample case as this study included 17 high schools and an English teacher and an administrator from each selected school. Teachers were from four types of high school; private, Anatolian, regular, and vocational. Observation, annual/lesson plans, and interviewed were used as data collection methods. This study gives thick information about studied English teachers' knowledge about instructional technology, implementation of instructional technology, the issues related with the use of these technologies, the ways of professional development by using these technologies, and technology integration guidelines to enable high school English teachers to integrate technology into their teaching. The schools' facilities available it the studied schools were also presented. The findings of this study might be considered while giving decisions or distributing MoNE resources among schools.

It also may help HEC to notice the consequences of the requirement of technology courses in teacher education programs in real sample case and to discover possible current requirements of teacher education programs. Teacher education institutes may make some changes on the way they teach (e.g. applying / integrating technologies in their courses or constituting models for the use of information technology in their teaching), the contents of the courses (e.g. covering the newly developed technologies, materials, strategies, etc…), the weight of some courses (e.g. give importance to technology integration into method courses), and the apprenticeship period of their students (e.g. creating environments where technology used efficiently and effectively) by considering and analyzing studied teachers' knowledge, abilities, and conditions.

This study shows the current situations of the studied high schools. There were differences among the studied schools on their technology integration process and facilities. In two schools, there were computers in every classroom but in one school there was no computer even in the teachers' room. The information about the high schools may guide other high schools administrators in their decision. They may evaluate about what should or should not be done to integrate technology in their schools by looking at the results of this study.

In addition to the implications for practice, the following are offered for further research. In this study, convenience and criterion methodologies was used for selecting high school English teachers and high school administrators in Ankara district. Thus, it can be stated that the results of the study were limited as to participants. Regarding this issue, new studies can be replicated using random sampling methodologies, different districts, and teachers from different branch. In this study qualitative research design was used; however, by using emerging themes in this study a quantitative study could be developed to reach a greater number of teachers from all around the Turkey and from all branches. With respect to this current study, similar research studies can be conducted to compare science teachers and social studies teachers. Also, the integration of technologies into educational systems can be examined in terms of their pedagogical philosophies and comparison studies can be conducted in this regard.

Some of the findings of this study could be elaborated in further studies. For example teachers mentioned about various resources that they have learned the things related to technologies like seminars, friends, formal education. The effectiveness and the contributions of these resources to their total technology knowledge could be examined. Similarly, teachers pointed out various reasons for not using technologies in their teaching. Their level of integration could be examined by removing these causes. Likewise, some training could be designed by taking into account the results of this study and the emerging designs' achievement could be analyzed. Some recommendations (e.g. providing training about the use of

technologies while showing how to apply technologies in educational settings) were suggested in the study; the suitability of them could be examined by applying them.

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APPENDIX A: Sample Observation Document

Table A.1: Sample Observation Document

School : Private High School One
Date : 26 April 2007
Course : 10-A (1/2)
Students: 15 / 17

Time	Topic (focus)	Material	What does the teacher do?	What do the students do?
8.35	Lesson Plan	Blackboard	Writes the lesson plan (titles) of the day. 1 - Course book 2 – Vocabulary, Reading, Listening 3 – Quiz	
8.37	Reading & matching	Blackboard & course book	Writes "Bounty Hunters" to the blackboard & asks the meaning of the words. Elaborates the meaning by asking various questions. Wants students to say relevant words with the "Bounty Hunters". Selects some of the told words and writes them to the blackboard. Asks students whether they have one of the course books with them or not. Allows students to bring their course book from their cupboard. Distributes English dictionaries to the students. Don't allow students to speak Turkish in any way. Makes 5 group of students each has three members. Wants students do the matching (vocabulary & meaning) exercises from course book. Wants them to do exercises together. Gives 5 minutes to complete the exercises. In any case she does not allow students to speak Turkish. Writes a title (Vocabulary) to the blackboard and underlines it. Writes from one to 10 under it as rows names. Looks at the late doers "What are they doing?" Wants students to tell the vocabulary and its meanings. Elaborates their answers by asking further questions. Writes answers to the blackboard. Corrects students'	One of the students says that I saw this title in a film & explains what its mean. Tell relevant words. Some of them say yes, some no, some in the cupboard. Some students go and bring. Be groups. Do the exercises by looking at the dictionaries. Sometimes they argue in Turkish.

Table A.1 (Continued)

			misspellings. Wants students to paraphrase their understanding not reading from dictionary. Wants students to listen to their friends. Clarifies some answers by requesting further explanations.	Read the answers. Explain their answers. Paraphrase their answers. Explain in other ways. Students do not interrupt their friends in their answers. Everyone respects to each other.
9:03	Quiz (Listening)	Quiz sheet, CD-Player	Wants students to clear their desks "everything should be away". Distributes the quiz sheet. Quiz sheet is a single page, one side is left for not taking, and one side is filled with various types of questions. Wants students to not look at the questions side of the quiz sheet. Wants them to take notes while listening. She warns them that she'll play only once and wants them to be careful. Adjust the volume of the CD-Player. Sound quality is quite high. Tells students to turn the quiz page and do the questions according to the listened dialogue and their notes. Gives them 2-3 minutes to complete the questions. Wants to see the students notes the students took. Wants them to do questions and warn students that "this is an individual exercises, not peer work, please do yourself". After students finish questions replays the dialogue and want them to check their answers. Collects students quiz sheets and gives to their friends to score them. Asks the answers of the questions Gives clues about taking notes, what to take notes. Wants students to score their answers over ten (each correct answer is one point). Announces the scores to the whole class and appreciates	Clear their desks. Listen to the dialogue and take notes. Answers the questions according to the dialogue they listened. Show their notes. Check their answers. Tell answers.

Table A.1 (Continued)

			the well doers. Tells low doers that "We should practice more". For doing very well in the quiz gives to whole class 5 point bonuses.	Score their friends sheets.
9:25	Next week program		Explains next week program, watching movie, mind maps on computers, and literacy studies (from Greek History).	
9:29	Quiz	Worksheet	Gives 5 minutes before starting quiz. Tries to summarize the previous week's subjects. Wants students to tell & to summarize the subjects. Helps them in their summaries. Elaborates the subjects, gives common points, and asks further questions. Wants everyone to put away everything. She says "I will not hesitate to take your exam sheet and give zero if you talk". After she distributes the quiz sheets, explains what is needed in each part. The questions are bout the literary subjects they studied in previous week. Does not allow sharing materials. Strictly applies exam rules. Allows extra times.	Previous week subject is literary matters. 2 speech, 2 poets, and 2 voices. Related with equality, eating, education, human rights, and health. Elaborates the subjects. Clear their desks. Ask question about what is required.
9:50	Homework	Course book + worksheet	Distributes four page sheets as homework. Writes course book page numbers and due date.	

APPENDIX B: Teacher Interview Schedule

INTERVIEW SCHEDULE

Araştırma Sorusu: Liselerdeki İngilizce öğretmenlerinin Öğretim Teknolojileri ile ilgili yeterlilikleri ve kendi durumları ile ilgili algıları.

Tanışma Metni

Merhaba,

Öncelikle görüşme yapmayı kabul edip vakit ayırdığınız için teşekkür ederim.

Benim adım Ercan Top. Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümü'nde Doktora öğrencisiyim. Bir proje kapsamında liselerdeki İngilizce Öğretmenlerinin Öğretim Teknolojileri ile ilgili yeterlilikleri ve kendi durumları ile ilgili algılarını ortaya çıkarmaya çalışıyorum.

- Bu görüşmede belirteceğiniz tüm bilgiler tamamen gizli tutulacaktır. Söyleyeceğiniz hiç bir şey üçüncü şahıslara iletilmeyecek ve çalışmada kesinlikle isminiz kullanılmayacaktır.

- Sizin için bir sakıncası yoksa bu görüşmeyi teybe kaydetmek istiyorum. İsterseniz görüşmeyi yazılı metin haline getirdikten sonra size gösterebilirim.

- Sormak istediğiniz bir soru var mı?

Giriş Soruları

❖ Hangi üniversiteden mezunsunuz?

Lisans, Yüksek lisans, doktora

❖ Kaç yıldır İngilizce öğretmenisiniz?

İngilizce öğretmenliğinden önce eğitimle ilgili başka bir işte çalıştınız mı?

❖ Şimdiye kadar hangi sınıflara İngilizce dersi verdiniz?

Kaç yıldır liselerin İngilizce derslerine giriyorsunuz?

— Eğitimde teknoloji denince aklınıza neler geliyor?

- ✓ Bunları kısaca açıklayabilir misiniz?
- ✓ Şu teknoloji de olsaydı kullanırdım dediğiniz bir şey var mı?

—Bu teknolojilerde kendinizi hangi seviyede görüyorsunuz?

General Preparation Performance Profile;

a) Operating system,
b) Trouble-shooting,
c) Computer purchases,
d) Word processing,
e) Spreadsheets,
f) Multimedia,
g) Database management,
h) Presentation software,
i) E-mail,
j) Devices,
k) Ethics,
l) Health and safety,
m) Web research,
n) Web pages,
o) Diversity, equity, and access.

— Yeni teknoloji veya teknolojik yöntemleri nasıl öğrendiniz veya öğreniyorsunuz?

- ✓ Bu konuyla ilgili abonesi olduğunuz herhangi bir dergi var mı?
- ✓ Devam ettiğiniz, devam etmeyi düşündüğünüz herhangi bir kurs / eğitim var mı? (Neden böyle bir kursa devam etmek istiyorsunuz, size nerede / ne katkısı olacağını düşünüyorsunuz?)

— Derslerinizi teknoloji ile bütünleştiriyor musunuz? Neden, nasıl?

— Derslerinizi teknoloji ile bütünleştirmek amacıyla ne gibi çalışmalar yapıyorsunuz? (Planlama aşamasından uygulama-değerlendirme aşamasına kadar)

- ✓ Teknolojiyi nasıl entegre etmeye çalışıyorsunuz?
- ✓ Planlarken nelere dikkat ediyorsunuz?
  - Farklı öğrenci ihtiyaçlarını karşılamaya yönelik uygun teknolojiler,
  - Literatüre uygun (güncel),
  - Farklı teknoloji kaynaklarını bulup karşılaştırma,
  - Bunları öğrenme aktiviteleri içinde planlama,
  - Teknoloji kullanma stratejileri geliştirme,

— Teknolojiyi öğrenme ortamında kullanırken nelere dikkat ediyorsunuz?

- ✓ Öğrenme aktivitelerinin içeriğine ve öğrencinin uygunluğunu kontrol etme,
- ✓ Öğrenci odaklı stratejiler geliştirme,
- ✓ Üst düzey düşünme becerilerini (Higher-order thinking skills) geliştirme,
- ✓ Öğrenme aktivitelerini yönetme,

- ✓ Öğrencinin öğrenmesini arttırmak için öğrenci hakkında bilgiler toplayıp, yorumlayıp, değerlendirmek için,
- ✓ Öğrenciyi değerlendirirken hangi teknikleri (yöntemleri) kullanıyorsunuz?,

— Derslerinizde (sınıf içi – sınıf dışı) hangi teknolojileri kullanıyorsunuz? (Konuşma, Yazma, Okuma, Dinleme)

- ✓ Bu teknolojileri hangi amaçlarla kullanıyorsunuz?
- ✓ Bu teknolojilerin öğretim süresince ne gibi etkileri var? (Sizce bu teknolojilerin size ve öğrencilere ne gibi getirileri var? Bu teknolojilerin negatif yanları nelerdir?)
- ✓ Öğrencilerin bu teknolojilerin kullanımına tepkileri / yanıtları nasıl gelişiyor? (Daha dikkatli ders dinliyorlar, derse katılımları yüksek oluyor, dikkatleri azalıyor, vs...)
- ✓ Ne sıklıkla bu teknolojileri kullanıyorsunuz?
- ✓ Ne sıklıkla kullanmak isterdiniz?
- ✓ Derslerinizde teknoloji kullanmak isteyip de kullanamadığınız zamanlar oluyor mu?
- ✓ Bunların sebepleri nelerdir?
- ✓ Bu teknolojilerin kullanımı konusunda olumlu veya olumsuz destekler var mı?
- ✓ Okulda olduğunu bildiğiniz ama kendi derslerinizde kullanmadığınız teknolojiler var mı?

— Kendi gelişiminiz için teknolojiden ne derecede yararlanıyorsunuz?

- ✓ Profesyonel gelişim ve hayat boyu öğrenim için,
- ✓ Mesleki verimliliği arttırmak için,
- ✓ Meslektaşlarınla haberleşmek için,

— Öğrencilerinizin teknolojiyi kullanırken nelere dikkat etmesini beklersiniz?

— Siz teknoloji kullanırken nelere dikkat edersiniz?

- ✓ Farklı özellikteki, durumdaki, karakterdeki öğrencilerin teknolojiden faydalanmaları,
- ✓ Etik kurallara uyma, uydurma,
- ✓ Teknolojinin sağlıklı ve güvenli kullanımını sağlama,
- ✓ Öğrencilerin eşit olarak teknolojiyi kullanmalarını sağlama.

— Okulunuzda derslerinizde kullanabileceğiniz ne gibi teknolojik olanaklar var?

- ✓ Bunları istediğiniz zaman kullanabiliyor musunuz?

- Kullanabilmek için bir sürü formalite var,
- Bir sürü sorumluluk almak gerekiyor,
- Her zaman izin vermiyorlar,
- Kullanmak için izin istediğimizde mızmızlanıyorlar, vs...

✓ Okul yönetiminin bu teknolojileri kullanmanıza bakış açısı nedir?

- Her türlü olanaklarını seferber ediyorlar / bizim yapmamız gereken bunlar başka bir ihtiyacınızı karşılayamayız diyorlar,
- Zamana ihtiyacımız olduğunda esnek davranıyorlar / okulda olman ve yapman gerekenleri yapmak zorundasın diyorlar,
- Yeni yöntemler kullanmamızı heyecanla destekliyorlar / yeni sorunlara neden olduğumuzu düşünüyorlar,

✓ Yeni araçlara ihtiyacınız olduğunda size ve ihtiyacınıza bakış açıları nedir?

APPENDIX C: National Educational Technology Standards for Teachers

ISTE NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS (NETS) AND PERFORMANCE INDICATORS FOR TEACHERS

All classroom teachers should be prepared to meet the following standards and performance indicators.

I. TECHNOLOGY OPERATIONS AND CONCEPTS

Teachers demonstrate a sound understanding of technology operations and concepts. Teachers:

A. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE *National Educational Technology Standards for Students*).

B. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES

Teachers plan and design effective learning environments and experiences supported by technology. Teachers:

A. design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.

B. apply current research on teaching and learning with technology when planning learning environments and experiences.

C. identify and locate technology resources and evaluate them for accuracy and suitability.

D. plan for the management of technology resources within the context of learning activities.

E. plan strategies to manage student learning in a technology-enhanced environment.

III. TEACHING, LEARNING, AND THE CURRICULUM

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers:

A. facilitate technology-enhanced experiences that address content standards and student technology standards.

B. use technology to support learner-centered strategies that address the diverse needs of students.

C. apply technology to develop students' higher order skills and creativity.

D. manage student learning activities in a technology-enhanced environment.

IV. ASSESSMENT AND EVALUATION

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers:

A. apply technology in assessing student learning of subject matter using a variety of assessment techniques.

B. use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

C. apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

V. PRODUCTIVITY AND PROFESSIONAL PRACTICE

Teachers use technology to enhance their productivity and professional practice. Teachers:

A. use technology resources to engage in ongoing professional development and lifelong learning.

B. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.

C. apply technology to increase productivity.

D. use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

VI. SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK–12 schools and apply that understanding in practice. Teachers:

A. model and teach legal and ethical practice related to technology use.

B. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.

C. identify and use technology resources that affirm diversity.

D. promote safe and healthy use of technology resources.

E. facilitate equitable access to technology resources for all students.

APPENDIX D: Administrator Interview Schedule

INTERVIEW SCHEDULE

Araştırma Sorusu: Liselerdeki İngilizce öğretmenlerinin Öğretim Teknolojileri ile ilgili yeterlilikleri ve kendi durumları ile ilgili algıları.

Tanışma Metni

Merhaba,

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- Bu görüşmede belirteceğiniz tüm bilgiler tamamen gizli tutulacaktır. Söyleyeceğiniz hiç bir şey üçüncü şahıslara iletilmeyecek ve çalışmada kesinlikle isminiz kullanılmayacaktır.
- Sizin için bir sakıncası yoksa bu görüşmeyi teybe kaydetmek istiyorum. İsterseniz görüşmeyi yazılı metin haline getirdikten sonra size gösterebilirim.
- Sormak istediğiniz bir soru var mı?

SORULAR

- ❖ Okulunuz kaç yılında açılmış.
- ❖ Şu anda okulunuzda kaç öğrenci, kaç öğretmen var.
- ❖ Öğretim teknolojileri sözü size ne ifade ediyor?
- ❖ Okulunuzda öğretmenlerin kullanabilmesi için ne gibi teknolojiler var?
  - ✓ Bu teknolojiler nerede bulunuyor?
  - ✓ Bunları kullanmak isteyen öğretmenlerin ne yapması gerekiyor?
- ❖ Bu teknolojilerin eğitim öğretim sürecinde kullanılmasını nasıl değerlendiriyorsunuz?
  - ✓ Sınıfta ne gibi katkıları olabilir?
  - ✓ Sınıf dışında ne gibi katkıları olabilir?
  - ✓ Sizin bu teknolojilerin öğretim ortamlarında kullanılması ile ilgili genel görüşünüz nedir?
  - ✓ Öğretmenlerinizden bu teknolojilerin kullanımı ile herhangi bir beklentiniz var mı?
- ❖ Şu anda okulunuzda olmayan; fakat olsaydı iyi olurdu dediğiniz teknolojiler var mı?
  - ✓ Bu teknolojiyi, teknolojileri neden istiyorsunuz?
  - ✓ Bu teknoloj /teknolojiler ne işe yarayacak?

- ❖ Öğretmenler bir teknolojiyi kullanmak istediklerini söyledikleri zaman ne yapıyorsunuz?
  - ✓ Yer ve zaman sorun oluyor mu?
  - ✓ Bu teknolojilerin kullanımında bir sorun (problem) meydana gelirse ne yapılıyor?
  - ✓ Bu teknolojileri kullanabilmek için öğretmenin ne gibi ihtiyaçları olabilir? Bu ihtiyaçlar için düşünceniz (yaklaşımınız) nedir?

E-posta adresinizi alabilir miyim?
Teşekkürler.

APPENDIX E: Tools and Experiences for the General Preparation Performance Profile

TOOLS AND EXPERIENCES FOR THE GENERAL PREPARATION PERFORMANCE PROFILE

1. **Operating system—***Can save and move files, format disks, and perform other maintenance tasks; understands what a network is compared with a stand-alone system; knows what an operating system is and its purpose; can install and use application programs (such as a CAI program that teaches Spanish)*
2. **Trouble-shooting—***Can solve routine hardware and software problems (e.g., installing software, selecting the correct printer, hooking up the projector)*
3. **Computer purchases—** *Understands basic criteria for purchasing hardware, software, and services*
4. **Word processing—***Understands word processing capabilities as well as basic desktop publishing, page design, and layout principles*
5. **Spreadsheets—***Has sufficient knowledge to create a gradebook and make charts*
6. **Multimedia—** *Can use draw and paint programs, digital video, and digital cameras; can import graphics; can use images in presentations and publications*
7. **Database management—** *Can use an existing database (search, sort, and enter data into a template); can organize and develop own database*
8. **Presentation software—** *Will use appropriate design principles in classroom presentations prepared with software*
9. **E-mail—***Is able to send and receive messages and attachments, sort and handle e-mails, embed pictures in messages*
10. **Devices—** *Understands mouse, keyboard, printer, and scanner*
11. **Ethics—** *Understands copyright law, intellectual property, ethical use, and netiquette (such as inappropriate "spamming")*
12. **Health and safety—** *Is aware of issues such as ergonomics, predators on the Internet, inappropriate sites, proper use of children's names and pictures, and the dangers of completing surveys and divulging personal information*
13. **Web research—***Knows how to evaluate the quality and objectivity of Web sites; employs efficient and effective searching techniques*
14. **Web pages—** *Is able to create simple Web pages*
15. **Diversity, equity, and access—***Is aware of diversity, equity, and access issues.*

APPENDIX F: Teachers' Code List

CODE LIST

Reasons for not using	P 1	P 2	P 3	P 4	A 1	A 2	A 3	R 1	R 2	R 3	R 4	R 5	R 6	V 1	V 2	V 3	V 4	Tot
· Inadequacy of tools in classrooms	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	16
· Time wise problem	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	16
· Teachers are too overloaded	1			1			1	1				1	1	1	1	1	1	10
· Inadequacy of contemporary tools		1				1				1	1		1		1	1		7
· Too loaded curriculum			1	1	1		1	1	1		1							7
· Difficulty in classroom management				1		1						1	1	1		1	1	7
· Feeling difficulty of arranging available technologies		1		1					1		1			1	1		1	7
· Unsuitability of the students level								1	1	1		1		1		1	1	7
· Difficulty in finding suitable materials	1	1			1					1			1			1		6
· Students do not have future plans with English			1				1			1	1						1	5
· No culture on using technology in school							1			1		1			1	1		5
· Have lessons to different classes				1				1					1	1				4
· No suitable environment to be able to use technologies		1											1	1			1	4
· Too low of students' ethical level						1				1				1				3
· Difficult to find free time on technology facilities						1										1		2
Benefits for Lessons																		
· More permanent information						1	1		1	1	1		1	1	1			8
· Help to create an interesting environment		1				1	1	1	1			1	1		1			8
· More effective lessons	1			1		1				1	1	1	1					7
· Increase their level of understanding									1		1			1	1			4
· Ta be able to use various activities	1				1			1			1							4
· Brings opportunities otherwise impossible		1											1			1		3
. Involve all students to the lesson	1										1			1				3
Benefit For teachers																		
· Take less teacher's time		1		1			1		1			1	1			1		7
· To make teacher responsibilities easier		1								1	1	1						4
· Increase teacher motivation						1					1							2
· Don't exhaust teachers		1																1
Purpose																		
· Visual help	1	1	1		1	1	1		1	1	1	1	1	1	1	1	1	15
· Get attention	1	1	1	1	1	1	1	1	1	1	1	1			1	1		14
· To make learner centered environment		1	1	1	1	1	1		1	1	1	1	1	1		1	1	14
· To enable them to speak		1	1		1	1	1	1	1	1	1		1	1	1	1	1	14
· To give more than one stimulant	1	1	1	1		1	1		1	1		1		1		1	1	12
· To enable them to practice	1	1	1	1		1	1	1	1		1						1	10
· To improve their listening		1	1				1	1	1	1				1	1			8
· To encourage students	1	1	1		1	1	1	1										7
· To develop their pronunciation						1	1	1	1				1		1	1		7
· To show daily usage of English						1		1			1			1	1	1	1	7
· To have audio familiarity with some language items			1	1			1	1	1		1						1	7
· To enable them use technologies	1		1	1		1							1			1		6
· To enable them learn by doing	1	1	1	1	1											1		6
· To make interesting environment			1	1	1		1			1							1	6
· To prepare them to real life	1	1	1					1		1								5
· To enable them to write			1		1			1							1	1		5
o Exams	1		1					1		1								4

o Future daily needs	1	1	1															3
· To be able to use time effectively					1	1	1		1									4
· To make learn new words		1	1	1				1	1									5
· To make them lifelong learner	1		1										1					3
· To be able to give feedback													1					1
Used Tools / In Classroom																		
· Computers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
· Computer applications	1	1		1			1					1		1				6
o Web quest	1																	1
o Mind map	1																	1
o Discussion boards	1																	1
o Inspiration	1																	1
o Microsoft office	1	1					1					1		1				5
· Internet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
o Web Pages	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
o E-mail groups	1																	1
o MSN					1													1
o Webcam					1									1				2
o Forums	1				1													2
· Posters		1	1	1	1	1		1	1	1					1			9
· Worksheets	1	1	1		1	1		1								1		7
· Games		1	1	1				1		1					1	1		7
· Handouts	1	1	1		1	1												5
· Flashcards		1	1					1						1				4
· Videos	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	15
o Films	1	1	1	1	1	1		1	1	1	1			1	1	1	1	14
o Songs			1	1	1			1			1	1		1	1		1	9
o Clips			1															1
· Devices	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
o Cassette player	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
o CD Player	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1		15
o Projection	1	1	1	1	1	1	1		1	1	1	1		1	1	1	1	15
o Video	1	1	1	1	1	1	1	1		1	1		1		1	1	1	14
o OHP		1	1	1	1		1	1	1	1	1	1	1	1	1		1	14
o TV		1	1		1	1	1		1		1		1			1		9
o DVD		1	1			1			1					1				5
o Laboratory		1					1							1				3
o Scanners	1															1		2
o Smart Class		1																1
o Smart board	1																	1
Personal-professional development																		
· Search in internet and available resources	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	16
· Wants to develop himself/herself			1	1	1	1	1		1	1				1		1	1	10
o Wants to attend if there is seminars on technology usage				1	1	1	1		1	1				1		1		8
o wants to learn technologies how to use effectively							1		1					1		1		4
o Try to learn something about new developments			1											1				2
· Formal education	1			1		1	1		1	1	1			1	1			9
· seminars	1	1	1		1		1			1		1		1		1		9
· Learn when need emerges				1	1	1	1	1		1		1	1				1	9
· Forums	1	1	1		1					1				1	1			7
· E-mail groups	1	1	1							1	1				1		1	7
· Colleagues	1	1									1			1	1		1	6
· Courses in outside the school	1	1	1	1						1		1						6
· Advertisements						1	1						1	1				4
· Consulting others (Friends, brothers, etc…)		1	1	1														3

· Manuals			1															1
Wish of usage																		
· be able to use more	1	1	1		1	1	1		1	1	1	1	1	1	1	1	1	15
o Be able to use when necessary	1	1				1			1	1		1	1	1	1		1	10
o Be able to use rich content					1		1					1				1		4
o Everyday could be able to use whatever teacher wants					1					1	1							3
o Be able to use various programs	1															1		2
o Everyday want to use		1																1
· To have a language classroom	1				1	1	1							1		1	1	7
o Any kind of technology and their accessories	1						1							1		1	1	5
o Computers connected to the internet	1				1													2
· To have own classroom (PC, Projection, TV, Music System)	1					1					1				1	1		5
· Students come to teacher's classroom	1													1		1	1	4
· Wants students who desire to learn English										1						1	1	3
· teachers should have their own materials																1	1	2
· be able to teach things for daily usage							1						1					2
· Wants homogenous classrooms			1		1													2
· Wanted to have digital library				1												1		2
· to have enough time before lessons														1				1
Affects on students																		
· Increase motivation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
· Eager to use	1	1	1	1	1	1	1	1	1	1	1			1				12
· Helps to develop their English		1	1			1	1	1	1	1	1		1		1			10
· Positive responses	1		1	1	1			1		1			1	1			1	9
· Students have superior technology knowledge than teachers	1		1	1		1	1	1								1		7
· Active		1	1		1	1		1				1						6
· Use to improve themselves	1			1	1				1	1							1	6
· Changes according to students interest & level			1					1				1		1		1		5
· Helps them to contextualize		1				1		1				1			1			5
· To became researcher			1	1			1	1		1								5
· Able to use contemporary technologies			1							1			1	1				4
· Get bored								1						1			1	3
· Be volunteer for the applications		1			1						1							3
· Protect the tools			1		1			1										3
· When used for evaluation their anxiety level increases	1																	1
Difficulties for students																		
· Difficulty in reaching technology	1					1						1						3
· English instructions		1	1															2
· Unsuitable level		1																1
· Insufficient knowledge about technologies usages	1																	1
Choosing considerations																		
· Suitability of the students' level	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	16
· Contents of the courses	1	1	1	1	1	1	1	1				1	1	1	1			12
· Appropriate to the context		1	1	1	1	1	1	1				1		1	1		1	11
· Level of students' concern	1	1		1	1			1		1	1			1		1	1	10
· Suitable to the intended aims		1	1	1	1		1	1	1			1					1	9
· Readiness level of the students	1	1	1		1	1							1	1				7
· Suitability of the classroom environment		1	1	1								1	1			1		6
· Applicability		1	1	1		1						1				1		6
· Be able to use various materials	1	1	1			1									1			5
· Students needs	1			1	1					1	1							5
· Currency of materials	1		1		1						1	1						5
· Multiple intelligence	1			1	1				1						1			5
· Number of students in the classroom		1		1														2

· Students expectations	1																1
o Letter of expectation	1																1
o Expectation from teacher	1																1
o Expectation from course	1																1
Sources of materials																	
· Internet resources	1	1	1	1	1	1	1	1		1	1			1	1	1	1	14
· Book Publishers				1	1			1		1	1			1		1	1	8
· School library	1	1								1						1		4
· Students' materials					1	1					1					1		4
· Books homepages	1	1	1															3
· Previous materials			1														1	2
· University library	1																	1
· Resource center		1																1
Strategies in Usage																		
· Student-centered	1	1		1	1	1	1	1	1		1		1	1	1		1	13
· Follow course book	1	1	1	1		1	1	1	1	1	1					1	1	12
· Use intervals for elaborations		1	1	1	1	1		1	1				1	1	1			10
· Creates practice opportunities for students	1	1	1		1	1		1		1					1			8
· Use indirect methods	1		1		1	1	1	1							1			7
· Arrange environment for the technology	1			1	1										1		1	5
· Multiple intelligence	1			1	1				1						1			5
· Control their understanding through applications / Check their understanding during applications				1	1	1			1					1				5
· Use the available sources	1	1	1			1												4
· Demonstrate requested things		1		1				1	1									4
· Helps when students get stuck	1	1									1							3
· Helps when the subject is difficult	1	1				1												3
· Include the class in the activity		1			1			1										3
· Separate objectives of each lessons		1					1						1					3
· Consider student's personalities						1				1	1							3
· If necessary Provides individual feedback	1				1													2
· Be sure everyone has ability to use	1														1			2
· If something does not work pass another																1	1	2
· Try to give basic knowledge in lessons								1									1	2
Evaluations																		
· Aims of evaluations	1	1	1	1	1	1		1		1	1	1	1	1	1	1		14
o Check basic knowledge								1	1		1			1		1		5
o Whether used technology appropriately				1									1					2
o Control the effectiveness of used methods		1																1
o Show the students progress	1	1		1						1								4
§ Helps to increase students' motivations		1		1						1								3
§ To make students study		1																1
o Immediate feedback	1		1							1			1					4
o Define students positions in the classroom	1				1													2
o Look clues for improvement or not		1				1				1				1	1			5
o Whether aims attained or not		1		1				1				1						4
· Used things for evaluations	1		1	1	1	1		1		1				1		1		9
o Projects	1	1	1	1	1	1		1						1		1		9
o Presentations	1	1	1	1	1	1		1								1		8
o Homework	1	1	1	1	1	1		1										7
o Portfolio (progress, course requirements)	1	1						1										3
o Exams	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
o Oral grades	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
o Qui88es	1	1	1	1	1	1				1								7
o Note taking	1															1		2

o Book reading	1				1											1		3
o Pictures	1	1	1		1			1		1						1		7
o Assays	1	1	1							1						1		5
· Expected Behaviors	1		1	1	1	1		1		1	1		1	1		1		11
o Enthusiastic	1		1	1		1			1		1			1		1		8
o Good research		1	1	1				1					1					5
o Good design	1		1	1				1					1					5
o Did themselves	1		1	1				1	1									5
o Faultless		1	1	1										1				4
o Creativity	1		1					1						1				4
o Self consciousness	1		1							1	1							4
o Relatedness		1	1					1										3
o Rich content			1	1				1										3
o Timeliness					1									1				2
o Fluent pronunciation				1	1													2
· Technology could be used in speaking evaluation															1	1		2
· Rubrics for every study	1	1																2
· Interrupt in case of repeated mistakes								1						1				2
· Intended to use an evaluation software		1																1
· Sharing evaluation ideas about students	1									1								2
· Enter students evaluations to school database	1	1																2
Criticisms about using tech. Teaching																		
· Without technology English could not be learn		1	1								1	1						4
· Incompetent teachers may cause problems						1	1					1				1		4
· Everything does not work everywhere				1						1						1		3
· Things may not work as planned				1												1		2
· Teacher is key factor in technology integration												1				1		2
· Theory & practice may differ										1								1
· Insufficient information about school resources							1			1							1	3
Criticisms about using tech Personal																		
· I'm not using available schools' resources		1	1				1	1			1			1		1		7
o Use laboratory very rare		1																1
o Use OHP very rare		1	1															2
o Once a week or in a fortnight														1				1
o Want to use video								1										1
o Only play songs											1							1
· Teaching grammar is wrong but we do							1		1	1		1				1	1	6
· Being lazy				1		1	1			1	1					1		6
· Lack of interest						1	1	1		1						1		5
· I could integrate technology in a better way				1														1
· Using, not integrating			1															1
· Do not want to use tape much					1													1
· I don't want to spend time to learn technology when I compare gain / loses				1														1
· If student not interested I do not consider																	1	1
· Not used much as communication tool				1														1
While using																		
· Careful usage	1	1	1	1	1		1	1	1	1		1	1	1	1	1	1	15
· Ethical usage	1	1	1	1	1		1	1		1	1			1	1	1	1	13
o Being sensitive to others time	1															1		2
o Being sensitive to others emotional weaknesses	1						1	1		1								4
· Make preparation			1	1	1	1	1		1		1	1			1		1	10
o Be prepared for the lesson				1	1	1	1		1		1	1					1	8
o Check technologies before lesson			1	1	1		1				1							5
o Careful application					1		1											2

· Care security	1		1			1			1	1	1	1	1	1	1			10
· Don't spend to much time			1	1		1	1			1			1					6
· Use with students	1		1		1	1			1								1	6
· Suitability to the teacher aim		1	1	1		1			1		1		1					7
· Teach appropriate usage							1							1			1	3
· Devote more energy	1																	1
When to use																		
· Use when suitable	1	1	1		1		1	1				1				1	1	9
· Everyday	1	1			1						1							4
o CD player, pictures, posters	1	1			1						1							4
o Technologies are available	1																	1
· To warm up		1		1														2
· Post activity				1					1									2
Administration																		
· Positive	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
· Thoughts are in the same direction	1	1	1	1	1		1	1	1	1	1	1			1	1		13
· Depends on budgetary resources	1	1		1		1	1		1	1	1		1			1	1	11
· Provide support to use	1	1	1	1			1	1			1	1	1	1		1		11
· Technical support	1	1	1	1	1			1								1		7
o Computer teacher	1				1											1		3
o Teacher Trainer					1			1								1		3
o No support in about how to use technologies	1																	1
· Needs are met					1		1	1	1	1				1		1		7
· Does the things that could be done	1		1		1	1		1		1								6
· If group decision bought			1	1	1													3
· Depends future plans	1	1										1						3
· Find ways to solve problems							1	1		1								3
· No support for English						1									1		1	3
· Every year bring some things		1														1		2
· Support but do nothing											1				1			2
Students' usage expectations																		
· Apply formats / consider guidelines	1	1	1		1		1		1	1		1	1	1	1	1	1	13
· Careful usage		1	1		1			1		1	1	1	1	1	1	1	1	12
· Do not waste much time	1		1	1	1	1	1	1					1	1			1	10
· Apply ethical usage / Respect others' rights		1	1	1	1	1		1	1			1		1	1			10
· Spend some of their time for beneficial activities	1		1	1		1	1	1		1			1	1				9
· Join activities seriously / Willingness	1		1		1	1	1						1	1			1	8
· Approved sites	1	1					1			1			1		1			6
o School resources		1																1
o Suitable resources							1											1
o Trusted sites		1					1			1								3
· See technologies as supporter for their learning						1	1							1				3
· Improve their trouble shooting activities							1											1
Available technologies																		
· Able to use if not busy	1	1	1	1	1		1	1		1		1	1		1	1	1	13
· Take the key and use it	1		1		1		1	1				1						6
· Always open	1	1		1										1				4
· Many procedure						1					1		1	1				4
· Program sheets are on the front	1	1						1										3
· All the responsibility is over teacher									1					1	1			3
· Some devices dedicated to some groups only						1					1							2
· Smart class is locked, key is given when requested and class is empty		1																1

APPENDIX G: Administrators' Coding List

CODE LIST

Available Technologies	**P 1**	**P 2**	**P 3**	**P 4**	**A 1**	**A 2**	**A 3**	**R 1**	**R 2**	**R 3**	**R 4**	**R 5**	**R 6**	**V 1**	**V 2**	**V 3**	**V 4**	**Tot al**
Computers, projection, OHP, laboratories in special classrooms	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
Computers for teachers use	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	16
Portable technologies	1	1	1	1	1	1			1	1		1		1	1	1		12
Computers for students use		1	1				1	1										4
Next year in all classrooms projection will be settled		1	1					1										3
Technologies available on each classroom				1	1													2
Smart board	1		1															2
Smart Class		1																1
How Teachers use technologies																		
Teachers need reservations to be able to use	1	1	1		1	1	1	1	1	1	1	1		1	1	1		14
Teachers requests are met	1		1		1		1	1	1	1				1	1		1	10
Alternatives is looked for when problem emerges	1	1		1		1	1	1		1		1		1	1			10
Inform administration to be able to use technologies						1	1		1	1				1	1	1	1	8
Teacher make arrangements						1			1	1		1		1	1		1	7
Technological support available	1	1	1	1	1			1								1		7
Able to use if not busy										1	1	1	1	1	1	1		7
Teacher should solve the problems by themselves									1			1					1	3
Be able to use technologies justification is needed	1													1				2
I do not know how they make arrangements													1					1
Wishes of Administration																		
Technologies must be in each classroom	1	1	1		1		1	1	1		1	1		1	1	1	1	13
Teacher could be able to use whenever she wants	1		1		1		1	1	1	1	1	1		1	1	1		12
Want to renew in line with our budgets						1	1	1	1	1	1	1		1	1	1		10
Want basic needs supplied (like sport center)								1			1					1	1	4
Smart board		1		1		1				1								4
Materials for each lesson					1				1					1		1		4
Administrative staff																	1	1
Not following innovations													1					1
Inadequacies																		
Inadequate technologies in school							1		1		1	1		1		1	1	7
Resources are limited							1				1	1	1			1	1	6
Shortage of classroom in school							1					1			1	1	1	5
Shortage of basic needs like meeting room								1			1					1	1	4
Too loaded classrooms											1	1				1		3
Inadequacy of administrative staff												1					1	2
BENEFITS of Technologies																		
Audio-visual help	1	1	1	1	1	1	1	1		1	1	1		1	1	1	1	15
Increase students' motivation	1		1				1	1	1	1	1			1		1	1	10
Helps to create student centered environment		1	1				1	1	1	1	1			1			1	9
Save time		1	1		1		1		1				1					6
More permanent information		1				1		1			1	1			1			6
Helps to create interesting learning environment	1						1							1		1	1	5
Helps teachers in their teaching									1			1	1		1	1		5
Brings opportunities otherwise impossible		1		1							1							3
Make students to research			1													1		2

Make communication easier	1																1
What Teachers Needs																	
Teachers should use when necessary	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1		15
Teachers should learn how to use technologies than apply them	1	1			1			1	1	1		1	1	1	1	1	1	12
Education should be given	1				1			1	1	1		1	1	1	1			9
Administration should provide infrastructure				1						1	1		1		1	1	1	7
Teachers need time to learn technologies usage	1			1	1								1		1			5
Education is given		1		1				1		1								4
Video should be used	1		1															2
Should have technology in her home		1	1															2
Difficulty in protecting technologies in classrooms								1			1	1		1				4
Low students ability levels											1					1	1	3

APPENDIX H: CEO Forum Classification Stages

THE CEO FORUM CLASSIFICATION

Stage 1: Entry

Students Learning to Use Technology. At this stage, teachers are not themselves the technology users. If students are using technology, they are using it in ways determined by someone other than the teacher and without participation from the teacher. For example, they may have a designated computer lab time taught by a computer teacher. Alternatively, they may have classroom computers that are used for educational software games which students independently use during assigned computer time.

Stage 2: Adoption

Teachers Use Technology to Support Traditional Instruction. Teachers are beginning to use technology usually to enhance their own productivity, mandated either by the school (e.g., electronic report cards) or through their own initiative. Teachers at this stage use technology in a limited way, to do things they already would have done without the technology. They experience an advantage doing traditional tasks with a new tool and begin to see the power of the tool for other applications. For example, a teacher who uses word processing software to prepare a newsletter to parents discovers how much easier it is than using a typewriter. Therefore, the teacher begins to provide opportunities for students to use the computer as a "better typewriter" for completing stories, reports, or other exercises.

Stage 3: Adaptation

Technology Used to Enrich Curriculum.Teachers begin to use technology in ways that are connected to the curriculum, and in ways that are already familiar. Teachers are automating existing practices. For example, a teacher who has located web sites

with reference material relevant to a particular lesson is using that material to present the subject matter to the class. Perhaps the teacher is having students use CD-ROM encyclopedias and the Internet as an extension of print resources. Teachers at the adaptation stage tend to direct student inquiry (e.g., pre-selecting web sites) rather than allowing student-directed learning experiences.

Stage 4: Appropriation

Technology is Integrated, Used for its Unique Capabilities. Teachers at the appropriation stage view technology as a relevant tool for teaching and learning and they design learning experiences and environments to take advantage of its capabilities to meet objectives and desired outcomes. In the classrooms of teachers at this stage, technology begins to reveal its potential to produce improvements in learning, as students master higher-order thinking skills and more complex concepts and skills than they would have encountered without technology. Students will view technology as a tool to meet their objectives. For example, a student assigned a project on a local environmental issue would be empowered to use the Internet and other technology resources, such as e-mail, to direct a personal approach to the project. The teacher might also allow students to determine individual presentation tools, and arrange for a presentation to the appropriate community organization.

Stage 5: Invention

Discover new uses for technology. At this stage, teachers are redefining classroom environments and creating learning experiences that truly leverage the power of technology to involve students in tasks that require higher-order thinking skills as well as mastering basic concepts and skills. For example, a teacher might create a theme or project around which to center most of the activities of the class for a semester. During that time, the teacher and students would create a project or series of projects that weave learning and demonstration ability in each of the required subject areas. For example, a class project to create a web site for a local business might involve the opportunity for the students to learn about the business, learn

about web site creation, hone organizational skills, master content, and apply basic skills. Such a project might look to an outside observer more like a business environment than a conventional classroom, though a wealth of learning would be taking place.

CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name : **TOP, Ercan**
Nationality : Turkish (TC)
Date and Place of Birth : 01 June 1974, ALANYA
Marital Status : Single
Phone : +90 535 9722080
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EDUCATION

Degree	Institution	Year of Graduation
PHD	Computer Education and Instructional Technology, Middle East Technical University, Ankara, Turkey *Dissertation Title:* A study on perceptions of high school English teachers on their competency levels about IT and how they utilize IT in their teaching.	In progress
MS	Computer Education and Instructional Technology, Middle East Technical University, Ankara, Turkey *Thesis Title:* Evaluation Of Pre-service Foreign Language Teachers' Perceptions About Their Technology Competencies	December,2003
BS	Computer Education and Instructional Technology, Middle East Technical University, Ankara, Turkey	June,2000
BA	Tourism & Hotel Management, Marmara University; Social Vocational School Of Higher Education.	September, 1993
High School	Alanya High School	June, 1991

PROFESSIONAL EXPERIENCE

Research Assistant	Computer Education and Instructional Technology, Faculty of Education, Middle East Technical University, Ankara, Turkey	2000-2007

Web site: http://www.fedu.metu.edu
Responsibilities:

- Web Admin: The maintenance and development of,
  - the web server,
  - Database Management Systems,
  - the mail server.
- Network Admin,
  - Responsible for the maintenance of the Faculty network,
  - Finding solutions to the problems in the Faculty network in cooperation with the computer center.
- Responsible for Faculty Personal Computers:
  - Solving the problems in staff's computers,
  - Management of the technical service by the hardware and software suppliers of the Faculty,
  - Setting the specifications for the Faculty's hardware purchases.
- Laboratory Coordinator,
  - Preparation of laboratory schedule,
  - Administration and maintenance of student accounts,
  - Installation and maintenance of required software and hardware items.

Technical-Service Assistant	Metunet Computer.	1997-1998
Service Staff Member	Different hotels with various responsibilities.	1991-1999 (Summer)

TECHNICAL SKILL

Authoring Languages	ASP, XML, HTML, JavaScript, VbScript
Programming Languages	C, Visual Basic, Pascal
Web Development	Microsoft Front Page, Macromedia Dreamweaver
Multimedia Programming	Macromedia Authorware, Flash, Director, Adobe Photoshop, Premiere
Databases	SQL Server 2000, MS Access, MySQL
Operating Systems	Windows NT, Windows XP, Windows 2000/2003 Server, Windows 2000 Exchange Server
Statistical Packages	SPSS, Lisrel
Network Administration	Cisco Certified Network Admin Course Completed

LANGUAGE

Turkish (Native)
English (Fluently)
German (Intermediate level)

PUBLICATIONS

Journal Articles:

Yukselturk, E. & Top, E. (2006), Reconsidering Online Course Discussions: A Case Study, *Journal of Educational Technology Systems*, 34(3), page 341 - 367.

Top, E & Yukselturk, E. (in production). OCEP-ID: Instructional Design Model for Online Certificate Programs

Conferences

International:

Yukselturk, E., Top, E., & Sahinkayasi, H. (2005), Instructional Design Model for Online Certificate Programs (OCEP-ID), Association for Educational Communication and Technology (AECT) 2005, International Convention - Exploring the Vision, Orlando, FL, USA

Yukselturk, E., Top, E., & Yildirim, S. (2005), Using e-Portfolio Assessment in Web Supported Course, Association for Educational Communication and Technology (AECT) 2005, International Convention - Exploring the Vision, Orlando, FL, USA (Poster)

Yukselturk, E., & Top, E. (2004), Content Analysis of Online Course Discussions, World Conference on Educational Multimedia, Hypermedia & Telecommunications ED-MEDIA 2004, Lugano, Switzerland.

Projects

2005 – UNESCO – Avicenna On-line University Project Instructional Designer for the course "Web-Based Training: Design and Implementation".

2006 – UNESCO – Avicenna On-line University Project Instructional Designer for the courses "WBT: Design & Implementation Strategies II", " Web Tabanlı Eğitim: Tasarım ve Uygulama İlkeleri I", and " Web Tabanlı Eğitim: Tasarım ve Uygulama İlkeleri II"S