THE EFFECT OF EDUCATIONAL IDEOLOGIES ON TECHNOLOGY ACCEPTANCE

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DEVRİM ÖZDEMİR

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_____

Prof. Dr. Canan ÖZGEN

Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

_____

Prof. Dr. M. Yaşar ÖZDEN

Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

Asst. Prof. Dr. Ercan KİRAZ	Asst. Prof. Dr. Kürşat ÇAĞILTAY
Co-Supervisor	Supervisor

Examining Committee Members

Prof. Dr. Ömer GEBAN (METU, SSME) _____

Prof. Dr. M. Yaşar ÖZDEN (METU, CEIT) _____

Asst. Prof. Dr. Soner YILDIRIM (METU, CEIT) _____

Asst. Prof. Dr. Kürşat ÇAĞILTAY (METU, CEIT) _____

Asst. Prof. Dr. Ercan KİRAZ (METU, EDS) _____

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Devrim Özdemir

ABSTRACT

THE EFFECT OF EDUCATIONAL IDEOLOGIES ON TECHNOLOGY ACCEPTANCE

Özdemir, Devrim

M.S. Department of Computer Education and Instructional Technologies

Supervisor: Asst. Prof. Dr. Kürşat Çağıltay

Co-Supervisor: Asst. Prof. Dr. Ercan Kiraz

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The purpose of this study is to investigate the effect of both students' and academics' educational ideologies on their acceptance of technology, and to find out whether there are differences in the perceived ease of use of technology, perceived usefulness of technology, attitudes toward technology, and the frequency of use of technology in education in terms of their educational ideologies.

A survey design was used in this study. The questionnaire used in the study was developed by making use of the related literature, and it was administered to 58 academic personnel and 320 students in Middle East Technical University in Ankara, Turkey during the fall semester of the 2003 - 2004 academic year.

The data gathered was analyzed with the SPSS program, using descriptive and inferential statistics where ANOVA was conducted. The results of the study showed that academics' educational ideologies affect their acceptance of technology; specifically they affect the perceived usefulness of educational technology. Furthermore, there is an effect of students' educational ideologies on the frequency of their use of educational technologies.

In conclusion, the results of this study can contribute to the literature on the factors of technology acceptance. Educational ideology is a factor affecting academics' perceptions of the usefulness of technology, moreover, it is a factor affecting the students' the frequency of use of educational technology.

Keywords: Educational Ideologies, Technology Acceptance, Technology Integration

ÖZ

EĞİTİM İDEOLOJİLERİNİN TEKNOLOJİ KABULÜNE OLAN ETKİSİ

Özdemir, Devrim

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Yardımcı Tez Yöneticisi: Yard. Doç. Dr. Ercan Kiraz

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Bu araştırmanın amacı, akademisyenlerin ve öğrencilerin eğitim görüşlerinin teknoloji kabullerine etkisini araştırmak ve eğitim ideolojilerine bağlı olarak eğitim teknolojilerinin kullanım kolaylığı ile ilgili algılarında, eğitim teknolojilerinin yararlılığı ile ilgili algılarında, teknolojiye karşı olan tutumlarında ve kullanım sıklıkları arasında bir ilişki olup olmadığını ortaya çıkarmaktır.

Bu araştırmada anket yöntemi kullanılmıştır. Bu araştırmanın veri toplama aracı ilgili literatür göz önünde bulundurularak hazırlanmış, ve 2003 – 2004 eğitim öğretim dönemimde Ortadoğu Teknik Üniversitesi Eğitim Fakültesinde bulunan 58 akademik personel ve 320 öğrenciye uygulanmıştır.

Toplanan veri SPSS programı tarafından analiz edilmiş, ANOVA uygulanarak, analizlerde betimsel ve tahminsel yöntemler kullanılmıştır. Araştırma sonuçları akademisyenlerin eğitim ideolojilerinin teknolojiyi kabullerine, özellikle de algılanan yararlılığa etkisi olduğunu göstermiştir. Dahası, eğitim ideolojilerinin öğrencilerin eğitim teknolojilerinin kullanım sıklıklarına etkisi olduğu görülmüştür.

Sonuç olarak, araştırma sonuçları teknoloji kabulünü etkileyen etmenler ile ilgili yapılan çalışmalara katkıda bulunmuştur. Eğitim ideolojileri akademik

personelin algılanan kullanım kolaylığını dahası, eğitim ideolojileri öğrencilerin eğitim teknolojilerini kullanım sıklıklarını etkilemektedir.

Anahtar Kelimeler: Eğitim Görüşleri, Teknoloji Kabulü, Teknolojinin Entegrasyonu

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TABLE OF CONTENTS

LIST OF TABLES

TABLE

CHAPTER 1

INTRODUCTION

1.1. Background of the Study

Educational technologies have been the source of many changes in education in the last decade. Instructional design, the roles of students and teachers; the behavior of the students such as improved attendance and increased excitement, improved style of student presentation, methods of obtaining information are some of the areas these changes have taken place. However, the effects of these technologies have not been the same in all educational areas. Occasional flash news items in the newspapers reported that

> Some studies show that there is less of an impact over a longer period of time (as the novelty wears-off), and that differences become smaller or disappear altogether if the experimental (computer – using) and control (non-computer-using) groups are taught by the same teacher using the same basic instructional approach (Weiss, 1994, p.31).

This shows that some factors prevent users from benefiting from technology in education. Regarding this, the actual use of technology is the first and foremost factor in the changing success of education. It was stated that "If you don't use it (technology), you lose it (technology). There is no point in teaching sophisticated aspects of software unless you plan to use them regularly. Both kids and teachers will forget and end up frustrated." (Weiss, 1994, p.31)

Since the use of technology is very important in the success of technology in education, researchers concentrated on how they could ensure utilization of technology. Stetheimer and Cleveland (1998) tried to identify the primary forces that influence the utilization of technology in organizations. This model tries to explain the primary forces that affect the utilization of planned information technology. In this model, the user (teachers, academics, and students, etc.), organization (schools, colleges, and universities, etc.), system (design of educational technologies, the user

– friendliness, etc.), and task (the objectives of the lessons and curricula, etc.) are taken as primary forces that may affect the utilization of planned information technology. In this study, the user is the primary factor and also the focus of all interactions. So, here, the user has the major role in the utilization of technology in education.

In spite of some mandatory implementations of technology in education, the administrators did not get the expected results. A resistance to the use of educational technology arose. Markus (as cited in Wolski and Jackson, 1999) explained that resistance to change as a widely recognized problem in the study of organizations. Diamond (1993) claimed that such resistance depends partly on the individual's openness to learning and change (as cited in Wolski and Jackson, 1999). If the problem was related with the people's openness to learning and change, then the change shouldn't be problematic in educational organizations because any researcher would have the assumption that people involved in education are considered to be pioneers in adopting changes. However, Wolski and Jackson (1999) said that change in educational organizations is as problematic as change in any other organization. This shows that teachers and academics in education were not as open to learning and changes as they were expected.

After identifying resistance to change was the main problem, the factors that cause this resistance have been the subject of inquiry in many research studies in educational technology. Because the resistance has two behavioral outcomes, what causes these behaviors (failing to incorporate educational technology altogether and failing to use the technology to its full potential) has been researched for many years. The researchers have tried to identify the factors that affect the actual use of educational technology. Since the effective use of technology is a behavior, the problem was tackled using behavioral models like the Theory of Planned Behavior (TPB) founded by Fishbein & Ajzen in 1988, the Theory of Reasoned Action (TRA) founded by Fishbein and Ajzen in 1967 (as cited in Brown, 1999), and Social Cognitive Theory founded by Bandura in 1986 (as cited in Bandura, 2001). It was, however, soon acknowledged that the behavior of actual technology use needed its own model owing to the insufficiency of these models.

In 1986, Fred D. Davis introduced the Technology Acceptance Model (TAM) to account for the attitudinal factors that are postulated to affect computer acceptance. TAM is based upon the Theory of Reasoned Action. In the Theory of Reasoned Action, behavioral intention is the key factor affecting the actual behavior. Fishbein and Ajzen (1975) claimed that behavioral intention is a measure of one's intention to perform a specified behavior and represents the primary predictor of actual behavior. Behavioral intention is itself predicted by an attitudinal component, which represents an individual's feelings about performing the behavior (as cited in Brosnan, 1999). Technology Acceptance Model differed from Theory of Reasoned Action due to the factors involved in the model. The factors in TAM are specifically related with technology rather than behavior. This feature of TAM gives its reputation in technology related studies.

TAM is a widely accepted model because of its compatibility with other behavior and technology related models. Furthermore, there is a great deal of research testing TAM in other areas. Using TAM can reveal information about computer anxiety, computer self – efficacy, task – technology fit, users' outcome expectations about technology, technophobia, and some other concepts. Since the first use of TAM, many external variables have been identified such as situational involvement, intrinsic involvement, prior use, gender, experience, compatibility, and visibility, etc. Overall, all versions of TAM explained about 40% of a system's use. Analysis of empirical research using TAM shows that results are not totally consistent or clear. This suggests that significant factors are not included in the models. TAM is a useful model, but it has to be integrated into a broader one which would include variables related to both human and social change processes, and to the adoption of the innovation model (Legris, et al, 2001).

It is obvious that there is a need for a broader model to uncover the factors that affect actual computer use in the educational setting. To ensure this, it is necessary to identify the significant factors that are related to both human and social change processes, and the adoption of innovation models.

One significant factor may be related to user, organization, system, and task as mentioned by Stetheimer and Cleveland (1998). If possible, it should also be related to both human/social change processes, and the adoption processes. Today, it is known that the technology acceptance process is more complex than it seems.

Whether related to technology, or not, lots of factors might affect the technology use. To find out the most significant factors, it might be more helpful to search for the main determinants of the behaviors rather than dealing with little bits and pieces of information from a single perspective. Keeping these matters in mind, the educational ideologies might be one of the significant factors that may affect the actual use of educational technology together with the other factors of TAM since the educational ideologies cover lots of beliefs and values related to educational matters. Before talking about educational ideologies, it would be more appropriate to give a definition of ideology since ideologies give rise to educational ideologies. In 1972, Sargent gave one of the best definitions in his book: Contemporary Political Ideologies. He stated that

> … an ideology is a value or belief system that is accepted as fact or truth by some group. It is composed of sets of attitudes toward various institutions and processes of society. It provides the believer with a picture of the world both as it is and as it should be, and, in so doing, it organizes the tremendous complexities of the world into something fairly simple and understandable. The degree of organization and the simplicity of the resulting picture vary considerably from ideology to ideology, and the ever-increasing complexity of the world tends to blur all the pictures. At the same time, the basic picture provided by the ideologies seems to remain fairly constant. (as cited in O'Neill, 1990, pp. 18-19)

This statement shows us how ideologies cover the general attitudes toward the facts around us. Some of the concepts covered in ideologies are politics, economics, religion, social and cultural values, and education. In this sense, it is possible to define educational ideologies with the help of the general definition of ideologies. Educational ideology is a value or belief system that is accepted as a fact or truth by people in education. It is composed of sets of attitudes toward the overall goal of education, the objectives of the school, general characteristics of education, the child as learner, administration and control, nature of the curriculum, subject matter, instructional methods and evaluation, and classroom management (O'Neill, 1990). In addition, there have been some studies researching the relationship between computer technologies in education and theories of learning, how computer technologies have affected perception of the role of teachers and students in classroom settings; the idea of classroom management and teaching/learning

methods and techniques. These technologies and improvements in education have forced educators and students to revise their values, ideas and beliefs about educational matters. However, this has been a difficult process due to the resistance from the parties involved in education. Then a new question arises: “Do the existing educational ideologies of the individuals in education interfere with the integration of new educational ideas and beliefs as required by the latest educational technologies and its implications for teaching?” So, the research for the investigation of the relationship between educational ideologies and technology acceptance will give support for the technology integration process in Turkey.

To be able to understand the current situation in Turkey today, it is necessary to look at some demographic information. There are 80 universities, 58.873 schools, 16.090.785 students, and 578.805 teachers in Turkey. There are only 124.967 computers in 5860 schools. 119.073 computers are being used for computer education and computer based education. 17% of the schools are computerized and 67% of the teachers are educated in computer use (Türkiye Bilişim Şurası, 2002). However, the information is not clear for higher education. Çağıltay et al. (2001) found that teachers in Turkey have positive attitudes towards technology. Since attitudes are only one component of technology acceptance, it is wrong to claim there is enough evidence about the technology acceptance of the educators in Turkey.

Studies in this area indicate that a great deal of attention should be given to in-service training; and teachers’ and mentors' attitudes toward technology should be positively changed in order to make them accept technology and use it in education. Although most of teachers are educated for technology use and have positive attitudes toward technology, there is no significant impact of technology in education. Educators in Turkey are still not using technology in education to the full potential as expected. The reason for the problem of not using technology in education may have its own solutions in the higher education. Therefore, the level of acceptance of technology and the educational ideologies of pre-service teachers and academics (as the mentors of the pre-service teachers) should be identified and the relationship between educational ideologies and technology acceptance needs to be identified in order to gain insight into the process of technology adoption by the educators.

1.2. Purpose of the Study

The purpose of this study is to investigate the effect of both pre-service teachers' and the academics' educational ideologies on their acceptance of technology, and to find out whether there are differences in the perceived ease of use of technology, perceived usefulness of technology, attitudes toward technology, and the frequency of use of technology in education in terms of these educational ideologies.

Therefore, the main and sub research questions are:

1. What is the effect of the pre-service teachers' educational ideologies on their acceptance of technology?
    a. Is there a difference between pre-service teachers' perceptions of the usefulness of technology in education, in terms of their educational ideologies?
    b. Is there a difference between pre-service teachers' perceptions of the ease of use of technology in education in terms of their educational ideologies?
    c. Is there a difference between pre-service teachers' attitudes toward technology in education in terms of their educational ideologies?
    d. Is there a difference between pre-service teachers' frequency of use of technology use in education in terms of their educational ideologies?
2. What is the effect of the instructors' educational ideologies on their acceptance of technology?
    a. Is there a difference between academics' perceptions of the usefulness of technology in education, in terms of their educational ideologies?
    b. Is there a difference between academics' perceptions of ease of use of technology in education, in terms of their educational ideologies?
    c. Is there a difference between academics' attitudes toward technology in education, in terms of their educational ideologies?
    d. Is there a difference between academics' frequency of use of technology in education, in terms of their educational ideologies?

1.3. Significance of the Study

In order to better understand the process of technology adoption, we need to clarify other factors affecting the use of technology. So far, many studies have been conducted related to this topic most of which focusing on computer-related factors. These studies remained limited in scope and, therefore, all the factors they identified may account for only 40% of the total variance of technology acceptance. Legris (2003) pointed out that analysis of empirical research using TAM shows that results are not totally consistent or clear. This suggests that significant factors are not included in the models. TAM is a useful model, but it has to be integrated into a broader one, which would include variables related to both human and social change processes, and to the adoption of the innovation model.

All over the world, the integration of technology into educational institutions runs into similar common problems. A brief literature review shows that that the results of similar studies in different countries are compatible. In this respect, the problems encountered in this area are the problems of the world. The results of this study will shed light on the research related to this area.

It seems that improvements in education accompanying the integration of technology are less than expected. The reason may be connected to the unchanged perspectives of technology and education. Although people have positive attitudes toward technology, that doesn't mean they will use technology in education.

This study will help us make a comparison between academics and pre-service teachers in terms of their educational ideologies and their acceptance of technology. It will evaluate the problem along two different dimensions, one from the points of view of the academics, and the other from the points of view of the students in higher education. The results from the students will also reflect the attitudes of pre-service teachers. At this point, this study will help us understand the extent to which the academics' educational ideologies are related to their acceptance of technology. The results of this study will guide the development of prospective faculty development programs. It will show whether the problem in technology acceptance may be due to the academics' general perspectives about education. It will help us focus on the most significant points in education curricula in teacher preparation courses in order to train technologically more sophisticated teachers.

CHAPTER 2

LITERATURE REVIEW

This chapter will represent the outline of the study with the following themes. The themes have been organized with the aim of describing the philosophies and ideologies, the transmission from ideologies to educational ideologies, the effect of educational ideologies on the educational practices and other educational matters, the technology in the changing era, the integration of technology into education, the importance of use and user in the success of integration, and a summary is given at the end.

2.1. Educational Philosophies and Educational Ideologies

Literally, the term philosophy means "love of wisdom"; "philo" means love and "sophy" means wisdom. In a broad sense, philosophy is a thinking activity people fulfill when they try to clear out fundamental truths about themselves, the world in which they live, and their relationships to the world and to each other. In the academic area, the term, philosophy is similar to the one in general and is divided into some major sub disciplines. The content of these disciplines sometimes change in accordance with the standpoints of the philosophers. O'Neill (1990) explained the sub disciplines and their areas of inquiry in general as below:

- Metaphysics is the study of the nature of reality, which in turn, tries to find out the answers of the questions about what exists the world, what it is like, and how it is ordered. It concerns with the ultimate truths.
- Epistemology is the study of knowledge and is mainly concerned with what we can know about the world and how we can know it. It questions the process from the reality to knowledge.
- Ethics, sometimes called as axiology, concerned with what is right and good among the knowledge we have. The ethics attempts to

answer such questions as “What is good? What makes actions or people good? What is right? What makes actions right?

- Logic is another aspect of the study of philosophy that tries to construe the process of the “good” or “bad” reasoning. What makes people to judge some of the knowledge good or bad?

In this sense, philosophy determines our truths, knowledge, what is good or bad, and how we decide the issues well or bad. Lots of philosophies now exist in the literature depending on their areas like philosophy of law, religion, and science. Philosophy of education is one of these philosophies and everybody has a philosophy of education. Philosophy of education is the study of such questions as what education is and what its purpose is, the nature of the knowing mind and the human subject, problems of authority, the relationship between education and society, etc. (Philosophy of Education, 2004). The changes in the philosophies also change people’s attitudes, behaviors, and beliefs about the educational matters.

There are five common educational philosophies in the literature. They are essentialism, perennialism, behaviorism, progressivism, and existentialism. Each of these philosophies reflects our understandings and beliefs about the general aims of education, the roles of the students and the teacher, the structure of the curriculum, the classroom management, and some other educational matters. The definitions of these educational philosophies are as follows.

Essentialism refers to the “traditional” or “Back to the Basics” approach to education. He added that essentialism is so named because it strives to instill students with the “essentials” of academic knowledge and character development. Essentialism contended that schools should not try to radically reshape society. Rather, they should transmit the traditional moral values and intellectual knowledge that students need to become model citizens. In essentialism, the role of teacher is to instill some virtues such as respect for authority, perseverance, fidelity to duty, consideration for others, and practicality (Shaw, 1997).

Progressivism’s respect for individuality, its high regard for science, and its receptivity to change harmonized well with the American environment in which it was created. With progressivism, schools broadened their curricula, making education more relevant to the needs and interests of students. Progressivists believe

that education must be based on the fact that humans are social animals who learn best in real-life activities with other people (Educational Progressivism, 2004).

Among perennialists, Mortimer Adler is a well-known perennialist. He believed that education should be basically the same for everyone, because children's sameness as human beings…means that every child has all the distinguishing properties common to all members of the species. For Adler, education should serve three purposes: to teach people how to use their leisure time well, to teach people to earn their living ethically, and to teach people to be responsible citizens in a democracy (Educational Perennialism, 2004).

Existentialism proposes that we should not accept any predetermined creed or philosophical system and from that try to define who we are. It aims for the progressing of humanity. Existentialists are in favor of independent thinking. Existentialism is not a set of curricular materials. Rather, it is a point of view that influences all that the teacher teaches and how he or she teaches. It engages the student in central questions of defining life and who we are. It attempts to help the student acknowledge his or her own freedom and accept the responsibility for that freedom. It aims to help the child realize that the answers imposed from the outside may not be real answers are the ones that come from inside each person, that are authentically his or her own. (Educational Existentialism, 2004)

Behaviorism is an approach to psychology based on the proposition that behavior is interesting and worthy of scientific research. Within that broad approach, there are different emphases. Some behaviorists simply argue that the observation of behavior is the best or most convenient way of investigating psychological and mental processes. Others believe that it is in fact the only way of investigating such a process, while others still argue that behavior itself is the only appropriate subject of psychology, and those common psychological terms (belief, goals, etc.) have no referents and / or only refer to behavior. (Behaviorism, 2004)

There are some other educational philosophies like humanism, maturationism, constructivism, and pragmatism. However, the philosophies mentioned above are the prevalent ones.

Although the educational philosophies are helpful in predicting some results in education, there are some difficulties to formulate philosophical

generalizations about education. O'Neill (1990) summarized these difficulties. Some of these difficulties are at below.

1. There are some philosophical inconsistencies in some philosophers. Some philosophers have two or more different philosophies of education (p.20).
2. There became some changes in the ideas of some philosophers while writing at different times during their life. Therefore, it gets necessary to distinguish between a philosopher's proposals for education under ideal conditions and his proposals for education under existing conditions (p. 21).
3. There is a circumstantial context of philosophy. Philosophy may affect the way a person construes his circumstances or the priorities he attaches to certain courses of action within them, but it does not necessarily play the dominant role in creating the circumstances which he construes and evaluates (p. 21).
4. Not all philosophers address themselves explicitly to education; therefore much philosophy of education is necessarily matter of inference and extrapolation based upon relatively "pure" philosophy that makes little explicit mention of teaching and learning (p. 23).
5. Particular philosophies or systems of philosophy may be either too general or too specific to provide a satisfactory basis for a truly effective philosophy of education (p. 26).
6. There is no one-to-one relationship between general philosophy (that is, general philosophical systems, such as realism or experimentalism) and specific educational practices. The same or similar ethical and social systems occasionally stem from different philosophical first principles (p. 27).
7. Not all education – whether one is talking about specific educational practices or more generalized educational policies – is based upon a coherent philosophy of education (p. 27).

With respect to these difficulties, it seemed that educational philosophies per se were insufficient in analyzing some educational practices. Furthermore, in order to make educational philosophies more reliable, the differences between educational philosophies should be clearly identified. O'Neill (1990) claimed that

> There is no one-to-one relationship between general philosophy (that is, general philosophical systems, such as realism or experimentalism) and specific educational practices. The same or similar ethical and social systems occasionally stem from significantly different philosophical first principles. It is therefore in the realm of social ethics, and particularly in the area of political philosophy, which is the first step toward the formation of specific social action from the more abstract considerations

> of ethics, that fundamental differences in educational philosophies – the so-called educational ideologies – emerge. (p. 27).

As being the first step toward the formation of specific social action, educational philosophies could be improved and separated from each other in the light of political philosophies, namely, political ideologies.

For Lye (1997), ideology is a term developed in the Marxist tradition to talk about how cultures are structured in ways that enable the group holding power to have the maximum control with the minimum conflict. He also believes that power concept is neither a unitary force nor phenomenon, nor an exclusively political phenomenon. Power and power relations are woven throughout all the practices and ideas. To prevent the misconception, some conceptions of ideology de-emphasize the power aspect and see ideology as the structure of assumptions which form the imaginative world of groups. In this sense, the difficult thing is to classify the ideologies rather than defining the general concept of ideology since ideology has an effect on so many things such as politics, economics, religion, and society / culture. From different aspects, it is possible to use so many classifications. However, basically, the ideologies can be mainly categorized in two groups, which are conservative (right wing) and liberal (left wing) ideologies.

Foldvary (1998) defined both ideologies and he further explained that right-wing ideas and movements are associated with the traditional values, conservative ideologies, support for a strong military, resistance to legal equality, censorship, nationalism, and reverence and support for symbols of the state, whereas the left-wing ideas and movements are usually associated with a tolerance for diverse religions and races, opposition to censorship, basing morality on reason rather than tradition, favoring equality before the law and emphasizing human beings regardless of their nationality, and opposition to privilege.

As mentioned before, these ideologies increased in variety; however, the main groups remained the same. In this sense, O'Neill (1990) divided educational ideologies into two groups: Conservative educational ideologies and liberal educational ideologies. There are mainly three specific educational ideologies under each general educational ideology. The classification of the ideologies is shown in Figure 2.1. O'Neill focused on political philosophies and their implications on education.

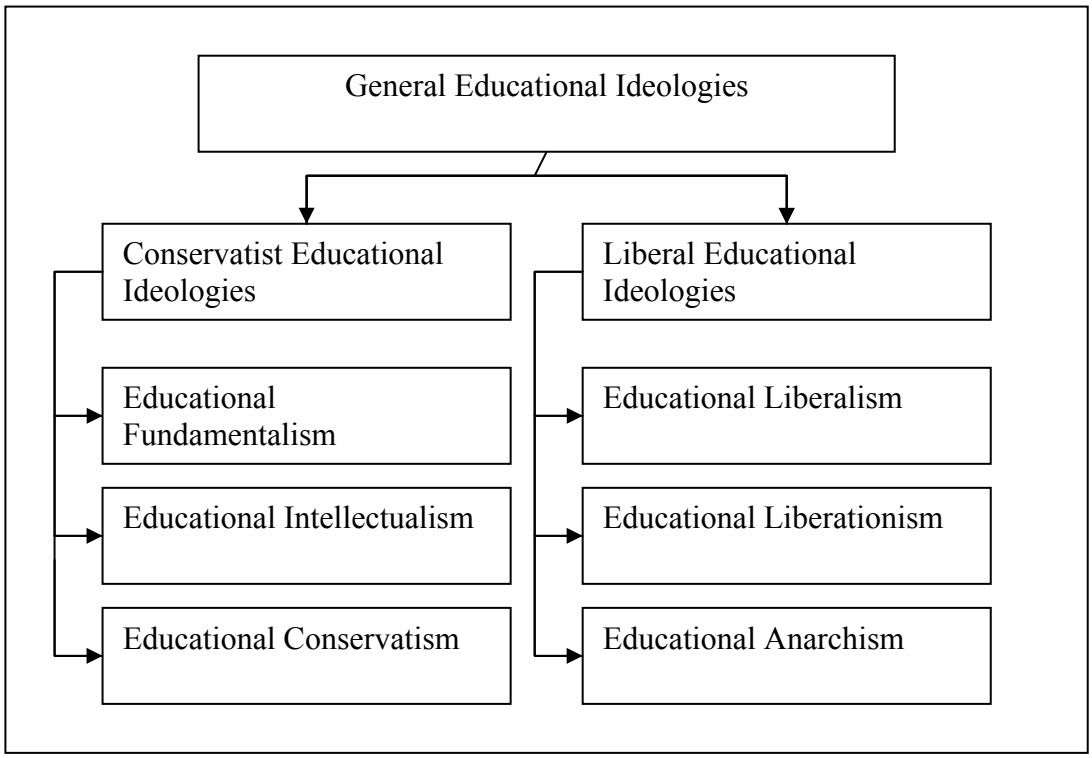

Figure 2.1.The Classification of the Educational Ideologies (Source: O'Neill,1990)

Conservative educational ideologies consisted of three basic traditions. They are educational fundamentalism, educational intellectualism, and educational conservatism. They ranged from the religious expression of educational fundamentalism, at the most conservative or authoritarian end of the spectrum, to the secular variety of educational conservatism, at the least conservative end. Like conservative educational ideologies, liberal educational ideologies consist of three basic traditions- educational liberalism, educational liberationism, and educational anarchism. They range from the least liberal expression of educational liberalism to the exceedingly radical proposals of the utopian anarchist at the end of the continuum. O'Neill (1990) explains these educational ideologies in six different categories, discussing and commenting on each one in quite detailed manner.

The first of these ideologies is Educational Fundamentalism which claims that educational ideology encompasses political conservatism which seeks to minimize philosophical and / or intellectual considerations, tending to ground their contentions on a relatively uncritical acceptance (usually justified as "common

sense"). This ideology urges humans to reform conventional standards of belief and the goal of the school is to restore the older and better ways in order to reconstruct the existing the social order (O'Neill, 1990).

Educational ideology that emerges out of those expressions of political conservatism based on closed and fundamentally authoritarian philosophical or religious systems of thought is called "Educational Intellectualism". It seeks to change existing political (including educational) practices in order to make them conform more perfectly to some established and essentially unvarying intellectual or spiritual ideal (O'Neill, 1990).

The third ideology is Educational Conservatism which is fundamentally supportive of adherence to established institutions and processes, together with a deep respect for law and order. In educational terms, conservatives see the central goal of the school as being the preservation and transmission of existing social patterns and traditions. They seek to develop a contemporary society by ensuring sort of slow and organic change that is compatible with the pre-established legal and institutional requirements (O'Neill, 1990).

The fourth ideology, Educational Liberalism, is somewhat far from being similar to the previous ones in that liberalists believe that the long term goal of education is to preserve and improve the existing social order by teaching each child how to deal effectively with his or her real life-problems. Schools should attempt both to provide students with the information and skills necessary to learn effectively for themselves and to teach students how to solve practical problems through the application of individual and group problem-solving processes (O'Neill, 1990).

Similar to the previous one, Educational Liberationism as the fifth educational ideology maintains that the ultimate goal of education should be to implement the reconstruction of society through humanistic lines emphasizing the fullest development of each person's unique potentialities as a human being (O'Neill, 1990).

The last ideology, Educational Anarchism, holds that we should emphasize the need for eliminating institutional limits and pressure on personal behavior. In a decentralized, deinstitutionalized society, people would be returned to themselves, and be more willing to have personal responsibilities (O'Neill, 1990).

It has seemed that these ideologies affect the people's behavior in terms of their approaches to the overall goal of education, the objectives of the school, the roles of teachers and students, the administration and control, the nature of the curriculum as well as instructional methods and evaluation. The educational ideologies are very diagnostic in some of the educators' behaviors in the classroom environment. However, some possible effects of educational ideologies are still in need of further research. For instance, one of the issues that should be further investigated is whether there is an effect of educational ideologies on technology acceptance in education. After the problems in educational technology came into light, the researchers have begun to investigate the reasons for these problems. Unfortunately, these studies have remained somewhat limited in scope. However, there are some clues that guide us to conduct research in this area. To be able to get a better understanding of the issues involved, it is necessary to overview the historical development and diffusion of technology in education.

2.2. The Changing Era

In this section, the transition from the Industrial age to information age and changing expectations of organizations, the need for change in education, the integration of technology into education and evaluation of the impacts of technology in education would be mentioned.

2.2.1. Transition from the Industrial Age to the Information Age

While passing from the industrial to the information age, education encountered new terms such as constructivism, individual learning, interactive simulations, and virtual environments. The changing needs and expectations of organizations and societies obliged education to change its entire structure. The NCIH Assessment and Evaluation Report (1996) states that

> Society is undergoing a fundamental transformation from the Industrial Age to the Information Age. This is a global phenomenon with very significant local implications... Those who realign their practices most effectively to Information Age standards will reap substantial benefits. Those who do not will be replaced or diminished by more nimble competitors. (Assessment and Evaluation Report, 1996, ¶ 1)

In this report, some examples of this transformation are given. For instance:

- During the 1900's, 85% of [US] workers were involved in Agriculture. Now Agriculture uses less than 3% of the workforce. In 1950, 73% of US employees worked in production or manufacturing. Now less than 15% do.
- As recently as the 1960's, almost half of all workers in industrialized countries were involved in making things or helping to make things. By the year 2000, no developed country will have more than 1/8 of its workforce in the traditional roles of making or moving goods.
- Already an estimated 2/3 of U.S. employees work in the service sector, and knowledge is becoming our most important product. According to the National Bureau of Labor Statistics latest census, over 90% of the workforce currently produces knowledge.
- By an estimate of the National Governors' Association, almost 90% of all state employees are in information intensive jobs – generating, accessing, manipulating or safeguarding important information on a daily basis.
- The Department of Labor estimates that by the year 2000, at least 44% of all workers will be in data services – gathering, processing, or utilizing information.
- In 1995, 27 million U.S. workers were using e-mail in the workplace, just under a sixth of U.S. homes had at least one computer connected to a modem, and more than 12 million Americans were using the Internet each day. Currently, the number of Internet nodes doubles every 56 days.
- There has been more information produced in the last 50 years than since the beginning of human species. The information supply now doubles every 5 years.

These examples strongly emphasize that the significance of skills is being replaced by the significance of knowledge. Today, organizations are seeking employees who know how to gain information and how to improve their skills according to the current needs of the company. With the information age, Leadbetter (as cited in Flew, 2002) has identified the knowledge economy as one that is 'driven by new factors of production and sources of competitive advantage -innovation, design, branding, know-how, which are at work in all industries', and where the capacity to promote collaboration and distribute knowledge is the key to appropriate forms of institutional reform. Furthermore, McCarty (as cited in Flew, 2002) added that the key to success in the 'new economy' lies in knowledge management, or the capacity to make knowledge portable, collective and accredited through aligning networked technologies with organizational structures to distribute knowledge. In response to these changes, some trends emerged that were driving changes in modes of education provision. Cunningham et. al. (as cited in Flew, 2002) identified eight trends common in the information age. These were:

1. Globalization, and the need to deliver appropriate courses worldwide, as well as to develop cross-cultural competencies at management level;
2. New information and communication technologies (ICTs) and the need to continually upgrade skills in how to use ICTs throughout organizations, as the 'half-life' of knowledge falls dramatically;
3. The knowledge economy, and the need to reduce cycle time between developing and executing new ideas, as well as making knowledge portable and transferable through sharing best practice;
4. The need to create a learning organization, which promotes learning agility, an orientation to change, and a commitment to lifelong learning throughout the organization- the major issue is no longer seen as the acquisition of skills, but how to teach behaviors, which are primarily learned through challenging experiences;
5. The growth of user-pays higher education, and closer attention on the part of corporations to the 'bottom line' of externally-provided training, as well as the decline in public funding to universities;

6. The use of ICTs to distribute knowledge through organizations at lower costs, through the Internet and corporate Intranets, in order to lever competitive advantage through the sharing of intellectual capital,
7. The growing demand for education and training with 'credential creep' in the labor market and among professions, and the need for formal certification to ensure 'lifetime employability', leading to the emergence of the 'learner-earner' and 'earner-learner' education markets;
8. Shortages of skilled personnel, particularly in the booming US economy (until the 2000 recession after the World Trade Center attack), and the expectation of new employees (so-called 'Generation Xers') that continuous training opportunities will be provided, and that a corporate university is a marker of that commitment and hence of an 'employer of choice.'

2.2.2. The Need for Change in Education

Neither governments nor legislators ignored these trends. They began to identify deficiencies in their educational systems. The integration of information technologies was certainly necessary to compensate for the needs of education. Hamza (1999) described his vision of teachers and learning domains in the information age. He identified ways of creating enthusiastic and interesting classroom environments, with computers as cognitive tools for learning critically and creatively; he discussed the relationship between education and technology, and the rewards of creative behavior and risk taking. He said that technology can be an impetus that propels students' imaginations and cognitive satisfaction in the classroom. Successive updates in Internet software and video conferencing, technology's unlimited capacity, and its growing popularity should support all aspects of instructional and educational goals.

The roles of students and teachers, the goals of education, and the structure of the traditional classroom should change in accordance with the needs of the era. A teacher's primary mission is not to assign a grade; it is to educate students to think, to learn, and to make creative connections that they previously thought impossible (as cited in Hamza, 1999). “Teachers are advised not to force-feed information or create

all possible associations. Mentioning information replaces teaching; it conjures the illusion of learning and the illusion of teaching" (as cited in Hamza and Alhabi, 1999, ¶ 1).

2.2.3. The Integration of Technology into Education

With regard to organizational needs, the integration of technology into education seemed a practical solution to some of the problems involved in the transformation of education. This is because it is thought that if it is used appropriately, it might improve the quality of education and help teachers and students to reach the standards of the era. At the beginning of this integration, the focus was on purchasing new technologies and putting them into the classroom environment. After a while it was recognized that merely putting the technology in the class was not enough. Skolnik (1998) noted that "It has been pointed out that since computers first appeared, predictions have been made about how they would revolutionize education, but that has not happened." (p. 644) In addition to this, Norris et. al. (2003) posited that "Although the literature points to the potential for impact, the reality is sobering: to a first-order approximation, the impact of computing technology over the past 25 years on primary and secondary education has been essentially zero (e.g., Cuban, 2001; Oppenheimer, 1998)." (p. 15) According to this, evaluation of the impacts of technology in education became an arguable matter and this issue became the focus of research in the area. Hawkes and Cambre (2001) drew attention to this situation with these words: "

> The focus of educational technology has shifted. In the 1990s, the goal was to put technology in schools and build a national technology infrastructure. For many, the focus has now turned to evaluating the effects of the technology in schools and classrooms. Parents, teachers, legislators, administrators, school boards, and others are looking for answers to this question: what is our investment producing in terms of student learning? The question is political, economic, and educational, and not easy to answer. They claimed that the effects of technology are dependent on the context in which the technology is applied. Evaluating the effectiveness of school technology programs requires a broad approach that considers many contextual factors. (p. 48)

2.3. Evaluation of the Impacts of Technology in Education

Since the effects of technology are dependent on the context in which the technology is applied, it would be appropriate to identify the impact indicators of technology in education. Without an understanding of these indicators researchers may seek change in the wrong places and come out with statements such as "The results show no evidence that Internet investment had any measurable effect on student achievement." (Trotter, 2002, p. 10). Part of the difficulty in determining the effects of educational technology is not knowing what to look for. Therefore, evaluations may fail to yield information about how technology affects learning (Hawkes & Cambre, 2001). In 2001, Hawkes and Cambre identified impact indicators. They were standardized measures, behavior (improved attendance, increased excitement, interest, and joy of learning, more engaged problem solving, increase in accepting responsibility for learning, increase in depth and extent of conversations with both teachers and other students, improved style of presentations, improved self-esteem), stakeholder improvement, technology competency, multicultural change, equity, new student and teacher classroom roles, climate of learning, teacher collaboration, and school agency collaboration. The impact indicators are not limited to these however. They might change in accordance with the context in which the technology is applied. With the identification of these impact indicators, the major question concerning how the impacts of technology in education could be measured turned into questioning what the key factors that make significant changes on these impact indicators are.

Unfortunately, the answer to this latest question was not easy to find since there were many factors affecting the utilization of technology in education. Stetheimer and Cleveland (1998) grouped these factors in five categories. They designed the model shown in Figure 2.2 below which tries to explain the primary forces that affect the utilization of planned information technology. In this model, the user (teacher, academic, student.), organization (school, college, university), system (design of educational technologies, user – friendliness), task (the objectives of the lessons and curricula) are taken as primary forces that may affect the utilization of planned information technology, in other words, the integration of educational technology.

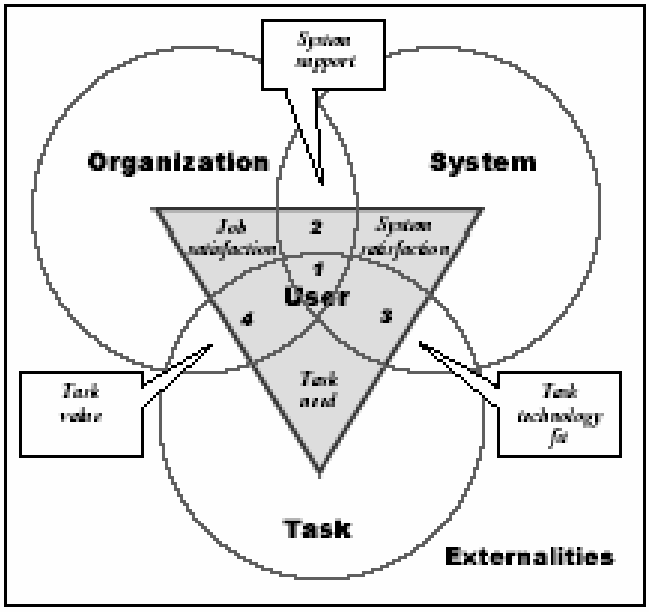

Figure 2.2. Relational Diagram of Primary Forces and their Interactions (Source: Stetheimer and Cleveland, 1998)

It seems that the user is the center of this model. For this reason, the user is given the major role in the utilization of technology in education. The users are sometimes teachers and academics, and sometimes students.

2.4. The Importance of Use and User in the Success of Educational Technologies

For the effective use of technologies for educational purposes, the user is the key factor in successful technology integration. Without access to and use of technology in education, no advantages can be expected. Here the keyword is using technology for educational purposes. Up to now, most of the studies in this area have sought to identify the ideal frequency of use without asking about the purposes. In these studies, therefore, the use of technologies in education does not mean that the technology is being used for education. This may cause biased results because this kind of use of computers can make no difference in the quality of education, although teachers and academics use computers. On the other hand, without

accessing and using computers, it is clear that no impact will appear. Norris et. al. (2003) found a significant and substantive correlation between technology access and use; almost without exception, the strongest predictors of teachers' use of technology were measures of access to the technology. Conversely, and contrary to conventional wisdom, teacher characteristics and demographics (e.g., time on the job, subject matter, gender) were of relatively little power in predicting technology use. Furthermore, Norris et. al. (2003) added:

> Technology naysayers then may be right, but for the wrong reasons. It's true that classroom technology has not had a positive impact on teaching and learning, but it's equally true that that lack of impact is overshadowed by a widespread lack of technology access. If students don't have access to classroom computers, then classroom computers can't possibly have a measurable impact on students' learning. (p. 25)

Access is necessary for getting benefits from educational technology, but it is not enough to make teachers and academics use educational technology effectively for educational purposes. There are some other factors that greatly affect the use of educational technologies. These factors have been sought for a long time and many models and theories have supported this endeavor.

2.5. Theories and Models of the Use of Technologies

In order both to evaluate the impacts of technology and to solve problems in the integration process of technology in education, teachers and academics first and foremost should use the technology. Concerning this, researchers sought the factors affecting the use of technology. Since technology use is a behavior, behavioral models and theories mostly prevailed in these studies. The most common theory in this literature is Social Cognitive Theory (Bandura, 2001). In this theory, there is a triadic reciprocality among person, environment, and behavior. According to Bandura (1977; 1978; 1986) (as cited in Bandura, 2001), social cognitive theory figured out two sets of expectations as the major cognitive forces guiding behavior. They are outcome expectation and self-efficacy. The first of these, outcome expectation, concerns beliefs about the results of certain behavior. The second is self-efficacy, or beliefs about one's ability to perform a particular behavior. Self-efficacy

influences choices about which behaviors to undertake. Actually, these two sets of expectations concern two basic questions that are faced by many individuals in deciding whether or not to perform certain behaviors. One is the question "Should I do that?" which concerns the usefulness of the behavior in query. The other concerns the feasibility of the behavior, that is to say, "Am I capable of doing it?”

Although this model showed the main factors to be environment and person, it didn’t cover all factors, especially in regard to specific technology-related matters. Therefore, the development of the literature about the use of technology continued. The Theory of Reasoned Action is part of this development. In 1975, Fishbein and Ajzen explained that TRA posits behavioral intention is a measure of one's intention to perform a specified behavior and represents the primary predictor of actual behavior. Behavioral intention is itself predicted by an attitudinal component which represents an individual's feelings about performing the behavior (as cited in Brosnan, 1999).

Another theory that tried to identify factors affecting behavior is the Theory of Planned Behavior. In TPB, say Bajaj and Nidumolu (1998), behavior is again influenced solely by behavioral intention. Behavioral intention is influenced by attitude towards behavior, by subjective norm and by perceived behavioral control. Attitude mediates behavioral beliefs (a subjective probability that behavior will lead to a particular outcome) and outcome evaluations (the desirability of an outcome). Subjective norms mediate normative beliefs (perceived opinions of others) and the motivation to conform to the expectations of these others. Perceived behavioral control mediates control beliefs (the perception of the availability of skills, resources, and opportunities) and perceived facilitation (assessment of the importance of these resources to achieving these outcomes).

All the models mentioned above tried to identify the key factors affecting behavior. There still remained a need for a model or theory that would specifically identify the key factors affecting use of technology. In 1986, Davis suggested a Technology Acceptance Model (TAM). TAM gained great respect from researchers since it was supported by many behavioral models and gave consistent results when applied in studies. TAM consisted of five parts as shown in Figure 2.3.

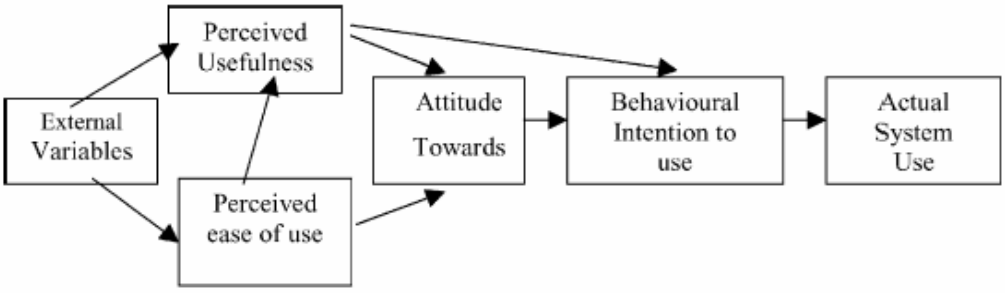

Figure 2.3. Original Technology Acceptance Model (Source: Legris et. al., 2003)

The Technology Acceptance Model accounts for the attitudinal factors that are postulated to affect computer acceptance. Since 1986, TAM has been tested in numerous studies and has been modified many times. Many external variables were added to this model to get a higher variance to predict future system use. Finally, as Legris et. al. (2003) stated, although the results are mostly convergent, there are situations where they are conflicting. A closer analysis of these situations indicates that the original TAM model needed to be improved and the latest model (the last version of TAM) goes a long way in that direction. However, even if established versions include additional variables, the model hardly explains more than 40% of variance in use. Legris et. al (2003) summarized the current situation with these words:

> Analysis of empirical research using TAM shows that results are not totally consistent or clear. This suggests that significant factors are not included in the models. We conclude that TAM is a useful model, but has to be integrated into a broader one which would include variables related to both human and social change processes, and to the adoption of the innovation model. (p. 191).

In literature, there are numerous models and theories that endeavor to identify the factors affecting the use of technology. TAM is one of the most reliable and common model that tried to explain the use of technology.

2.6. The Current Determinants of Actual Technology Use

The determinants of technology use could be grouped into many factors. These are related with organization, system, user, task, and other external factors (Stetheimer and Cleveland, 1998). Most of the studies focused on technology (system) and human (user) related determinants. Dillon and Morris (1999) emphasized that "Research indicates that use is determined by combined attributes of the individual, the situation or the technology."(p. 3). In addition, the results of the study conducted by Nielsen and Levy (1994) showed that the actual use is multiply determined (as cited in Dillon and Morris, 1999).

Computer self-efficacy is one of the current determinants of actual use. Bandura (1986) (as cited in Sun, 2003a) defined self-efficacy as "People's judgments of their capabilities to organize and execute courses of action required to obtain designated types of performances. It is concerned not with the skills one has, but with judgments of what one can do with whatever skills one possesses." (p. 6). About computer self-efficacy, Sun (2003a) added that:

> From the definition, it can be seen that self-efficacy is concerned not with the component skill but the ability to "organize and execute courses of action." In other words, it addresses the ability to perform certain tasks, rather than basic skills. So, the definition of computer self-efficacy refers to judgment of one's capability to use a computer. It does not refer to simple component skills, like formatting diskettes or entering formulas on a spreadsheet. Rather, it incorporates judgments of the ability to apply those skills to broader tasks (e.g. writing reports or calculating). (p.6)

CSE has three dimensions. They are magnitude of self efficacy, self-efficacy strength, and generalizability of self-efficacy. Magnitude of self efficacy reflects to the level of task difficulty one believes is attainable. Individuals with a high magnitude of self-efficacy will see themselves as able to accomplish difficult tasks while those with a low self-efficacy magnitude will see themselves as only able to execute simple forms of the behavior. Self-efficacy strength reflects on the resistance of self-efficacy to apparently disconfirming information. Individuals with a weak sense of self-efficacy will be frustrated more easily by obstacles to their performance and will respond by lowering their capability. The last dimension,

generalizability of self-efficacy, concerns the question “under what condition will I finish the job?” (Sun, 2003a).

There are some other antecedents of computer self-efficacy that directly affect computer self-efficacy and indirectly affect the actual use of technologies. Some of these antecedents are prior experience, gender, training methods, anxiety, and ease of use (Sun, 2003a). Many studies focused on the impacts of these antecedents on technology use and due to the significance of these variables further such studies should be conducted. For example, training methods should shed light on the solution to the problem of the continuous cycle of not using technology in the school environment. Sun (2003a) mentioned three kinds of training methods such as behavioral modeling, verbal persuasion, and feedback. Behavioral modeling could provide one explanation for why new teachers don’t use educational technologies. Since the behavioral models for teachers are academics in higher education, academics who don’t use technology in higher education may affect the attitudes of pre-service teachers; therefore, new teachers may not use educational technologies. Dillon and Morris (1996) declared that unlike TAM, ease of use was directly linked to intention to use in this study suggesting a continuous cycle of attitude influencing behavior which then further shapes attitude, and so forth. Therefore, while perceptions clearly play a vital role in the user's cognitive evaluation and decision-making process about whether to use (or continue using) a new system, the evidence also suggests that relying on perceptual measures alone may be inherently risky due to changes in users' perception of a system over time.

Task-technology fit is another factor that is widely mentioned in the literature. “Goodhue and Thompson (1995) defined tasks as actions carried out by individuals in turning inputs into outputs. Another definition of task is an activity to be accomplished by a knowledge worker (Dishaw, 1998)” (as cited in Sun, 2003b). In education, tasks are determined by the goals of education. However, they are shaped by educators’ perceptions of the goals of education. Goodhue and Thompson defined Task-Technology Fit as the degree to which a technology assists an individual in performing his or her portfolio of tasks, and similarly, Dishaw and Strong (1996) defined it as "the matching of the functional capability of available information technology with the activity demands of the task at hand". Sun (2003b) also stated that

> More specifically, TTF is the correspondence between task requirements, individual abilities, and functionality of the technology. It is negatively related to the gap between the requirements of a task and the functionalities of a technology. When the gap widens TTF is reduced. We can see that the fit theory based on the assumption that information systems have a positive impact on performance only when there is correspondence between their functionality and the task requirements of the users. (p.7)

The task-technology fit seems an absolute determinant of the actual technology use in information technology studies. However, it has not been tested for educational studies. So, task-technology fit in education should be investigated.

Users' perceptions of educational technologies may impact the actual use of educational technologies. Steel and Hudson (2001) conducted a research regarding academics' perceptions of educational technologies and obtained significant results that may shed light on the area of educational technologies. Among these results are the following:

- Educational technology is not only taken to be understood as sophisticated web technology or multimedia, but the general tools of the trade of an academic -word processing, presentation packages and so on, which do not intrinsically have a direct educational purpose.
- Educational technology was perceived as actually a better learning and teaching medium than so called 'traditional' face-to-face.
- Another contribution that educational technology engendered and that was perceived as valuable emerged around notions of flexibility, and the fact that educational technology enables a multiplicity of forms of communication.
- In terms of educational technology impacting on learning styles, the perception of the teacher as guide or mediator of knowledge emerges from educational technology use in the lecturer's perceptions.
- Even though faculty members spoke of enhancing communication in a changing educational landscape, the notion that technology could in fact threaten meaningful face-to-face interaction, which is

perceived as crucial in some learning contexts, emerged in the interviews.

The results of this study showed that both advantages and disadvantages of educational technologies were perceived. The academics' general approaches to education may affect their perceptions about educational technology and therefore their actual use. The effects of their general educational ideologies on the attitudes toward educational technology use may, therefore, usefully be investigated in order to find a significant factor affecting actual technology use. Hannah (1998) also found a possible solution to the technology integration problem in creating intellectual comprehension rather than purchasing new technologies. He mentioned the obstacles to the integration of technologies.

Like Steel and Hudson (2001), Hannah (1998) emphasized the significant role of traditional intellectual infrastructure rather than technical infrastructure in the technology adoption process.

Moore et al (1999) also related use of educational technology to teachers' technology competencies and described four major categories emerged from their analysis. They are prerequisite technical skills, technical skills, instructional uses, and professional roles.

- Prerequisite Technical Skills are skills that are so basic in nature (e.g. correctly turn on and shut down a computer) that they must be mastered before any other skills or instructional applications can be learned. (e.g. how to correctly turn on and shut down a computer).
- Technical Skills are skills that are hardware / software based. These "how to" skills underlie all use of computer and related technologies.
- Instructional Use competencies are those which focus on applications of technology in classroom instruction and student learning. The development of Technical Skills and Instructional Use competencies will most often happen concurrently. One competency set does not necessarily precede the other; rather, teachers best learn them in conjunction. In fact, research shows that teachers react negatively to those courses that just emphasize technical skills without regard to teacher practice and teaching (OTA 1995).

- Complementing all competencies are those associated with teachers' Professional Roles. These competencies reflect those activities and behaviors in which teachers must engage in an information age classroom. These behaviors and competencies are essential for all teachers regardless of their proficiency in using technology in the classroom.

In order to make both students and teachers use educational technology, both teachers and students must be computer-literate. Teachers play a vital role in student development; therefore, students cannot emerge from schools computer literate if teachers are not computer literate (Espinosa & Chen 1996). In this respect, studies should focus on the structure of teacher preparation programs whether they are sufficient to give computer literacy to teachers. Over the course of the last decade technology has been gaining more importance in teacher education programs but most programs still have a way to go before they can adequately prepare their graduates to use technology to its fullest potential in their teaching and administrative activities (Barksdale 1996). Moore et al. (1999) stated that many teacher education programs have begun to offer classes that instruct students in techniques for using technology. However, in order fully to prepare teachers to teach with technology, teacher education program staff must, in their own instruction, demonstrate proper use of technology for teaching. Moore et. al. (1999) concluded their article with these words.

> A final consideration is to make sure that technology is used to help students to meet content standards. Technology skills for students are important but the thrust must be on learning and understanding the content. Thus an emphasis must be placed on using technology to help students achieve the most difficult to learn, yet critical concepts. To do so teachers must possess an adequate grasp of the content. While the technology staff development curriculum can and should address competencies in both technology and pedagogy, the basis for increasing competence in the content areas must come from content - specific curriculum staff development activities. It is crucial; therefore, technology, pedagogy, and content staff development activities into a single, coherent effort." (p. 92)

Up to now, most of the studies have focused on the problems in the technology integration process from one perspective. Therefore, it has been impossible to see the general view of the current situation.

In the process of seeking the determinants of the actual technology use, researchers intensified their studies of technology related matters such as computer self-efficacy (Bandura, 1986), perceived usefulness, perceived ease of use (Davis, 1989), computer anxiety (Compeau and Higgins, 1995), attitudes toward use of technology (Loyd and Gressard, 1984), Computer experience (Taylor and Todd, 1995), compatibility, trainability, visibility, result demonstrability, (Karahanna et. al., 1999), and tool functionality (Dishaw & Strong, 1999) (as cited in Legris, 2003). However, all of these variables explained only 40% of system use. It was realized that there are some other factors affecting technology use that are independent from purely technological matters. Legris et. al. (2003) concluded his article with a statement that TAM is a useful model, but has to be integrated to a broader one which would include variables related to human and social change processes, and to the adoption of innovation model.

2.7. The Possible Determinants of Actual Technology Use: The Relationship between Educational Ideologies and Technology Acceptance

It will be appropriate to begin with how the people perceived the concept of educational technology. Needless to say, technology has a variable impact on education. The strength of this impact changes with the users' expectations from technology in education. The perceptions and expectations of educational technologies play a vital role in the success of technology in education. It seems that the same feature of technology can be either a potential success or a pitfall depending on the context and the attitudes of the users. For example, Hudson and Steel (2001) stated that even though staff spoke of enhancing communication in a changing educational landscape, the notion that technology could in fact threaten meaningful face-to-face interaction, which is perceived as crucial in some learning contexts, emerged in the interviews. So, the choice between enhancing communication and losing meaningful face-to-face interaction will be one of the determinants of technology use. There are many similar judgments about educational technologies

and these attitudes affect the frequency of technology use (Davis, 1989). Attitudes regarding the use of educational technology are not only related to technology itself, however. People make comparisons with a number of things while deciding whether or not to use technology. Initially, people consider two basic concepts: outcome expectation and self-efficacy (Bandura, 2001). Whenever the people get sufficient answers from two questions, they decide to use technology. The questions are "Should I use technology? And will I able to use technology?" Most previous studies have tried to find out how the answer of the second question can be guaranteed to be 'yes'. They identified variables that change the answer of this question. Among many others, some of these factors are computer self-efficacy, computer anxiety, and technophobia, user-friendliness of the technology, the adaptability and usability of the technology, computer anxiety. However, in most cases, the answer to the first question about outcome expectation remained unanswered. To make the answer of this question positive, the outcomes of the technology use should fit the expectations of the educators, and the expectations change in accordance with beliefs, attitudes, and ideas about the matters. The matters are important here. Change in teacher and student roles, instructional methods, motivation, the course and the curriculum were taken into consideration in some studies. (e.g. Hudson & Steel, 2001; Hannah, 1998; Enkenberg, 2001). They show that not only the ideas, attitudes and perceptions about the pure educational technology, but also the ideas and beliefs about educational matters may have an impact on expectations about technology and also the use of technology. Defining all of the matters and trying to investigate the impact of these matters on the use of technology may be difficult, however. So, it will be more appropriate to begin with a wide concept which covers most of the educational matters.

2.8. The Current Situation in Turkey

There are some studies conducted in Turkey, focusing on the lack of active use of educational technologies in the learning environment. Usluel and Seferoğlu (2003) recommended that keeping in mind the lack of use of information technologies in classroom environments, it is necessary to supply the requirements of infrastructure and hardware. For instructors, in-service programs should be

implemented, and technical supported should be ensured in order to facilitate teaching, learning, and researching and publishing activities. Çağıltay et. al. (2001) found that teachers hold positive attitudes towards the use of computers; their perceived usefulness was high. However, they were worried about the lack of computers, the incompatibility of the curriculum with the use of computers, and the lack of prior computer education. Çağıltay et. al. (2001) emphasized that teacher education programs should be reorganized to be flexible for the use of computers in the classroom environment. The situation within Turkish higher education is unclear. The opinions of the academics and the students about education and technology are worth researching. Özden et. al. (1997) stated that some necessary arrangements in the curriculum should be established to ensure the integration of technology into education.

2.9. Summary

After the literature review, it is seen that there are a number of studies about similar educational matters. However, these studies are not specifically on the relationship between technology acceptance and educational ideologies. Therefore, there is a gap in the literature that looks for the relationship between technology acceptance and educational ideology. This is the reason why this study was conducted. The aim of this study is to investigate the effect of educational ideologies on technology acceptance by surveying the academics' and students' ideologies, perceptions about ease of use and usefulness of technology, attitudes toward technology and the frequency of use of technology in their teaching/learning environments.

CHAPTER 3

METHOD

This chapter describes the overall design of the study, population and sample selection, development of data collection instrument, data collection, and data analysis procedure.

3.1. Overall Design of the Study

The purpose of this study is to investigate the effect of educational ideologies on technology acceptance from the perspectives of the students and academics in the Faculty of Education, Middle East Technical University (METU), Ankara, Turkey. It aims to find out whether there are differences in perceived ease of use, perceived usefulness, attitudes toward use, and the frequency of use in terms of students' and academics' educational ideologies.

A survey design was used in this study. The researcher developed a questionnaire on educational ideologies and technology acceptance; it was distributed to students and academics in Faculty of education in METU, Ankara, Turkey. Some of these questionnaires were published on a website, due to the time limitation of the study, and some of them were published in paper format.

The major themes in the questionnaire included the demographics that are different in the student survey and academic survey; educational ideologies, views about perceived ease of use of educational technologies, views about perceived usefulness of educational technologies, and views about the actual use of educational technologies. Descriptive and inferential statistical analyses were conducted in order to gain a deeper insight into the responses to the questionnaire.

3.2. Population and Sample Selection

The study covered all the students and academics in the Faculty of Education in METU, Ankara, Turkey. Therefore, the population consists of all the students and academics in the Faculty of Education, Middle East Technical University. The surveys were distributed to 1478 students and 111 academics. 58 academics and 320 students responded the survey significantly. Therefore, the response rate was 24%.

The sample consisted of 320 students most of whom were in elementary education (50,3%) and foreign language education (38,4%). The following table represents the distribution of the students in terms of their departments.

Table 3.1

Distribution of the Students in terms of their departments

Departments of the Students	Number of Students	Percent
Computer Education and Instructional Technologies	14	4,4
Educational Sciences	2	,6
Elementary Education	161	50,3
Secondary Science and Math Education	13	4,1
Foreign Language Education	123	38,4
Missing	7	2,2
Total	320	100.0

Most of the students (43,4%) responded the survey were in the first year, 14,1% of the students were in the second year, 22,2% of the students were in the third year, and 17,2% of the students were in the fourth year. Table 3.2 shows the distribution of the students in terms their years.

Table 3.2

Distribution of the Students in terms of their years

Years	Number of Students	Percent
1st Year	139	43,4
2nd Year	45	14,5
3rd Year	71	22,9
4th Year	55	17,7
Missing	10	3,1
Total	320	100.0

As shown in Table 3.3, most of the students (66,9%) in the sample were female.

Table 3.3

Distribution of the Students in terms of their gender

Genders of the Students	Number of Students	Percent
Male	96	30,0
Female	214	66,9
Missing	10	3,1
Total	320	100.0

The majority of the students (46,3%) came from Anatolian Teacher Preparing High School.

Table 3.4

Distribution of the Students in terms of their schooling

Types of Schools	Number of Students	Percent
Anatolian Teacher Preparing High Schools	148	46,3
Science High Schools	62	19,4
Anatolian High Schools	24	7,5
Super High School	17	5,3
Vocational High School	10	3,1
Special High School	4	1,3
High School	20	6,3
Missing	35	10,9
Total	320	100.0

As Table 3.5 displays, 50,3% of the students were between 15 and 20 years old, and 41,3% of the students are between 21 and 25 years old.

Table 3.5

Distribution of the Students in terms of their age ranges

Age Ranges of the Students	Number of Students	Percent
15-20	161	50,3
21-25	132	41,3
26-30	3	,9
Missing	24	7,5
Total	320	100.0

Table 3.6

Distribution of the Academics in terms of their Departments

Departments of the Academics	Number of Academics	Percent
Physical Education and Sports	11	19,0
Computer Education and Instructional Technologies	2	3,4
Educational Sciences	18	31,0
Elementary Education	8	13,8
Secondary Science and Math Education	5	8,6
Foreign Language Education	13	22,4
Missing	1	1,7
Total	58	100.0

Table 3.6 displays, among the 58 academics who responded the questionnaires, that the largest group of respondents were educational sciences and foreign language education mentors, being 31,0% and 22,4% respectively. Physical Education and Sports, and Elementary Education provided 19,0% and 13,8% of the total academics respectively. The smallest group was from the Computer Education and Instructional Department.

Table 3.7

Distribution of the Academics in terms of their titles

Titles	Number of Academics	Percent
Professor	5	8,6
Associate Professor	1	1,7
Assistant Professor	9	15,5
Instructor (PhD)	2	3,4
Instructor	1	1,7
Research Assistant	39	67,2
Missing	1	1,7
Total	58	100,0

As Table 3.7 displays, five of the academics were professors, one was an associate professor, nine of the academics were assistant professors, 2 were instructors with PhDs, one was an instructor without PhD, and 39 of the academics were research assistants (without PhDs).

Table 3.8

Distribution of the Academics in terms of their gender

Genders of the Academics	Number of Academics	Percent
Male	19	32,8
Female	36	62,1
Missing	3	5,2
Total	58	100.0

As Table 3.8 displays, the majority of the academics are female (62,1%), and 32,8% of the academics are male.

Table 3.9

Distribution of the Academics in terms of their age ranges

Age Ranges of the Academics	Number of Academics	Percent
21-25	12	20,7
26-30	24	41,4
31-35	9	15,5
36-40	4	6,9
41-45	4	6,9
46-50	1	1,7
Over 50	3	5,3
Missing	1	1,7
Total	58	100,0

As Table 3.9 displays, 41,4% of the academics were between 26 and 30 years old, and 20,7% of the academics were between 21 and 25 years old.

Table 3.10

Distribution of the Academics in terms of their teaching experience

Years of Teaching Experience	Number of Academics	Percent
1-5	28	48,3
6-10	10	17,2
11-15	5	8,6
16-20	2	3,4
21-25	0	0
26-30	1	1,7
Over 30	1	1,7
Missing	11	19,0
Total	58	100,0

As Table 3.10 displays, 48,3% of the academics had between one and five years of teaching experience, 17,2% of the academics had between six and 10 years of teaching experience, five of the academics had between 11 and 15 years of teaching experience, two of the academics had between 16 and 20 years of teaching experience, one of the academics had between 26 and 30 years of teaching experience, and one of the academics had more than 30 years of teaching experience.

3.3. Development of Data Collection Instrument

This study employed a questionnaire in the Faculty of Education in METU, Ankara, Turkey in order to collect data on students' and academics' educational ideologies and acceptance of technology. This questionnaire was inspired by Davis (1989), and it was designed by the researcher in order to collect data from the academics and students. All the questions included in the questionnaire were developed in the light of a related literature review (see Appendix A).

The questionnaire is mainly composed of five sections. These are discussed below.

3.3.1. Demographics

This section aims at gathering information on background characteristics as department, title, age, gender, teaching experience, and computer experience in the survey for academics, and such as department, class, age, gender, and computer experience in the survey for students.

3.3.2. Educational Ideologies

In the second section, items on the six different educational ideologies , Educational Fundamentalism, Educational Intellectualism, Educational Conservatism, Educational Liberalism, Educational Liberationism, Educational Anarchism, and on two general ideologies, General Conservatism and General Liberalism, are included. Each of the six ideologies has 14 questions and each general ideology has 10 questions in this section. This section was adapted from the Educational Ideologies Inventory that was prepared by William O'Neill and standardized in 1990. This inventory had gone through a progressive series of modifications and corrections in the development process. Starting with a group of approximately 300 items, the Educational Ideologies Inventory had been administered to approximately 1000 students over a period of three years before standardization. Comments and criticisms had been solicited and the final revision of the Inventory had been prepared on the basis of this feedback. The revised Inventory had been standardized on a group of approximately 400 students of the University of Southern California. Statistical summaries relating to such things as validity, reliability, and averages had been obtained from this population as mentioned in "Educational Ideologies: Contemporary Expressions of Educational Philosophy" by O'Neill (1990). The Guilford scale was used in order to calculate the correlation coefficients between the norms of this inventory.

Since the native language of the sample isn't the same as that used in the original revised inventory, the revised and standardized inventory was adapted by using the committee approach. Eight different experts first translated the inventory and then another expert chose the most appropriate translations per item. 4 of 8

experts were chosen from the English Language Teaching Department in the Faculty of Education, METU, and others were chosen from the Foreign Language Education Department. The expert who chose the appropriate translations had lived for 11 years in the USA and is now in Foreign Language Education Department. It was his closeness to both cultures that made him the right person to select the appropriate translations. The expert opinions were gathered from an expert for translation validity and from another expert for content validity. In the light of their feedback, revisions and modifications were made to the adapted educational ideology inventory. Finally, a pilot study was conducted with a small group in order to uncover any misconceptions in the survey. Revisions were done with the help of data gathered in the pilot study. For the reliability, the method used by the provider of the original ideologies inventory was used in order to be compatible with the original study.

The founder of the educational ideology inventory, William F. O'Neill used Guilford scale and calculated the correlation coefficients between the specific educational ideologies and found positive correlation among nearly all the educational ideologies in the same main group and nearly no correlation among all the educational ideologies in different groups.

Table 3.11

O'Neill's correlational matrix

	Fund.	Int.	Cons.	Gen. Cons.	Lib.	Lbt.	Anarc.	Gen. Lib.
Fund.		.55	.64	.71	-.02	-.11	-.17	.12
Int.			.42	.56	.13	.16	.10	.18
Cons.				.59	.25	.06	-.09	.30
Gen. Cons.					.05	-.07	-.18	.08
Lib.						.52	.47	.64
Lbt.							.58	.51
Anarc.								.40
Gen. Lib.								

Table 3.12

The correlational matrix obtained after this study

	Fund.	Int.	Cons.	Gen. Cons.	Lib.	Lbt.	Anarc.	Gen. Lib.
Fund.		.55	.66	.68	.27	.18	.20	.27
Int.			.59	.61	.43	.41	.35	.44
Cons.				.71	.52	.42	.27	.43
Gen. Cons.					.34	.34	.14	.32
Lib.						.67	.45	.61
Lbt.							.45	.60
Anarc.								.30
Gen. Lib.								

The Cronbach alpha for this study was .90. In the questionnaire, the 5th, 17th, 19th, 25th, 33rd, 42nd, 52nd, 62nd, 71st, 78th, 87th, 90th, 97th, and 101st questions represent educational fundamentalism; the 2nd, 10th, 14th, 23rd, 37th, 41st, 48th, 57th, 61st, 63rd, 65th, 74th, 93rd, and 100th questions represent educational intellectualist questions; the 4th, 12th, 22nd, 34th, 46th, 55th, 68th, 72nd, 76th, 81st, 83rd, 88th, 92nd, and 104th questions represent educational conservatism; the 1st, 8th, 13th, 24th, 31st, 35th, 38th, 43rd, 50th, 53rd, 56th, 67th, 75th, and 77th questions represent educational liberalism; the 3rd, 15th, 21st, 27th, 32nd, 36th, 51st, 59th, 64th, 69th, 79th, 84th, 95th, and 99th questions represent educational liberationism; the 6th, 11th, 20th, 28th, 39th, 45th, 54th, 66th, 70th, 80th, 85th, 91st, 96th, and 103rd questions represent educational anarchism; the 7th, 9th, 18th, 26th, 29th, 30th, 44th, 58th, 86th, and 94th questions represent general educational conservatism; and the 16th, 40th, 47th, 49th, 60th, 73rd, 82nd, 89th, 98th, and 102nd questions represent general educational liberalism.

3.3.3. Perceived Ease of Use

The items in this section were collected from an original Technology Acceptance survey, which was created by Fred Davis in 1989. The researcher translated them and expert opinion was obtained. Revisions were made according to the expert opinion. The Cronbach alpha for this section is .45.

3.3.4. Perceived Usefulness

The items in this section were collected from an original Technology Acceptance survey, which was created by Fred Davis in 1989. The researcher translated them and expert opinion was obtained. Revisions were made according to the expert opinion. The Cronbach alpha for this section is .91.

3.3.5. Attitudes toward Computer Use

This section was taken from a questionnaire that was prepared by Çınar (2002). The specialty of this selection is, first, that is prepared with the native language and, second, that all of the reliability and validity studies had previously been conducted. This section has 23 questions, some of which have control questions. The Cronbach alpha for this section is .57.

3.3.6. Actual Use

This part has three sub-sections measuring the frequencies of educational technology general use, educational technology daily use, the purpose of use, and the types of software.

3.4. Data Collection Procedures

For data collection, the researcher applied to the Dean's office, Faculty of Education, METU, Ankara, Turkey. The Dean's office permitted the researcher to distribute the questionnaires to the students and academics.

The questionnaires were published in a website and some of them were also published on sheets of paper. The website was coded, using the ASP programming language. The data gathered from the participants was collected by using the MS Access database. The verification and authentication of the respondents were ensured by blocking the internet protocol addresses. The academics could fill in the survey only once from the machine, if they tried to respond to the survey for a second time,

they couldn't reach the website. For the students, the website was available only during lab courses, and, it was impossible to fill the forms out of the lab hours. The whole process was checked synchronously by two other websites which showed all of the data collected from the respondents. This was created in case of problems in the data collection procedure. It took three weeks to return the questionnaires. As a result, a total of 422 questionnaires were received by the researcher. There were 44 questionnaires which were miscoded or had a high proportion of missing data. Therefore 378 out of 422 questionnaires were evaluated, and the remaining 44 were disregarded.

3.5. Data Analysis Procedure

The data collected through the questionnaires were analyzed using descriptive and inferential statistics. All responses to close-ended items were entered into SPSS for statistical analysis.

Statistical analyses of the data were implemented according to the research questions. Firstly, the reliability of the educational ideology and technology acceptance sections were calculated using Cronbach's alpha and compared with the results of past studies. Secondly, the frequency, mean, and standard deviation, kurtosis, and skewness values were calculated where necessary. Third, the items in the questionnaire were examined through ANOVAs in order to determine whether or not the differences among students' and academics' technology acceptance factors were correlated with their educational ideologies.

3.6. Limitations and Assumptions of the Study

The scope of this study is the limited to the data collected from the academics and students who are included in the sample described above.

Another limitation is related to the methods of data collection and analyses used in this study. In terms of the survey questionnaire, two limitations need to be mentioned. Firstly, since the participation in this study was on a voluntary basis, the instrument was subject to uncontrolled biases of the participants. Secondly, since the

conditions under which the questionnaires were completed by the respondents could not be controlled, environmental biases may be present in the data.

One of the weaknesses of this research is the smallness of the sample size. Although the response rate of the both academics and students as greater than 0, 05, the size and variance of the sub groups prevent effective search for some details. For instance, it was impossible to evaluate the effect of specific educational ideologies on acceptance of technology in the sample of academics. Furthermore, there is a great heterogeneity in the sample sizes of the sub groups of the students in terms of their specific educational ideologies. For this reason, the reliability of the results of the sub groups of students in terms of their specific educational ideologies is low.

The results gathered used self-reported methods. This is another weakness of this study. In this study, it is assumed that all of the participants responded sincerely to the items of the survey.

The results of this study are limited to the sample chosen from the faculty and students of the Faculty of Education in METU, Turkey. Therefore, the results of this study could not represent all academics and students in Turkish higher education. The results can only give hints at results of future, larger-scale research.

Another limitation of this study is the results of this study couldn't be generalized to the professors and assistant professors since the majority of the academic sample involves the research assistants.

It is assumed that the participants of this study kindly responded the questionnaire.

CHAPTER 4

RESULTS

The purpose of this study is to investigate the effects of both the pre-service teachers' and their mentors' educational ideologies using the original variables of the Technology Acceptance Model. This chapter presents the findings of the study from the questionnaires. The findings are presented in four sections. The first section describes the characteristics of the sample. The second section describes the distribution of the educational ideologies among both the academics and the pre-service teachers. The third section examines the distribution of the technology acceptance factors among both the academics and the pre-service teachers. The fourth section examines the effects of general educational ideologies and their subcategories on the acceptance of technology of students and academics in the Faculty of Education, METU.

4.1. Background Characteristics of the Sample

This section will give a brief summary of the background characteristics of the students and academics who responded to the survey

4.1.1. Background Characteristics of the Students

In the questionnaire, students were first asked to give some background information about themselves in terms of department, class, age, gender, and computer experience. All of the students were undergraduate students.

As Table 4.1 displays, 12,8 % of the students had their computer education in certificate courses, 39,4 % of the students had their computer education in lessons in their undergraduate education, and 38,4% of the students had no computer education.

Table 4.1

Distribution of the Students in terms of their computer experience

Computer Experience					
Having Computer Certificate Course					
Yes		No		Missing	
Number of Students	Percent	Number of Students	Percent	Number of Students	Percent
41	12,8	277	86,6	2	,6
Having Special Computer Courses					
Yes		No		Missing	
Number of Students	Percent	Number of Students	Percent	Number of Students	Percent
4	1,3	314	98,1	2	,6
Having Undergraduate Computer Courses					
Yes		No		Missing	
Number of Students	Percent	Number of Students	Percent	Number of Students	Percent
126	39,4	192	60,0	2	,6
Other					
Yes		No		Missing	
Number of Students	Percent	Number of Students	Percent	Number of Students	Percent
44	13,8	274	85,6	2	,6
Having Computer Education (Overall)					
Yes		No		Missing	
Number of Students	Percent	Number of Students	Percent	Number of Students	Percent
195	60,9	123	38,4	2	,6

4.1.2. Background Characteristics of the Academics

In the questionnaire, the academics were first asked to give some background information about themselves in terms of department, title, age, gender, teaching experience, and computer experience.

As Table 4.2 displays, three of the academics obtained their computer education in certificate courses, and none of the academics obtained computer education through lessons in in-service education. None of the academics had computer education with taking special courses. 18 academics had undergraduate computer education. 15 of the academics had other kinds of computer education. In summary, 43,1 % of the academics had some sort of computer education.

Table 4.2

Distribution of the Academics in terms of their Computer Experience

Computer Experience					
Having Computer Certificate Course					
Yes		No		Missing	
Number of Academics	Percent	Number of Academics	Percent	Number of Academics	Percent
3	5,2	54	93,1	1	1,7
Having In-service Computer Education					
Yes		No		Missing	
Number of Academics	Percent	Number of Academics	Percent	Number of Academics	Percent
0	0	57	98,3	1	1,7
Having Special Computer Courses					
Yes		No		Missing	
Number of Academics	Percent	Number of Academics	Percent	Number of Academics	Percent
0	0	57	98,3	1	1,7
Having Undergraduate Computer Education					
Yes		No		Missing	
Number of Academics	Percent	Number of Academics	Percent	Number of Academics	Percent
18	31,0	39	67,2	1	1,7
Other					
Yes		No		Missing	
Number of Academics	Percent	Number of Academics	Percent	Number of Academics	Percent
15	25,9	42	72,4	1	1,7
Having Computer Education (Overall)					
Yes		No		Missing	
Number of Academics	Percent	Number of Academics	Percent	Number of Academics	Percent
23	39,7	34	58,6	1	1,7

4.2.Educational Ideologies of the Sample

In this section, the students' and academics' ideologies will be summarized.

4.2.1. Educational Ideologies of the Students

In the second part of the questionnaire, students were given 104 questions that identify their educational ideologies. In this part, it became possible to identify their specific educational ideologies and their general educational ideologies. As Table 4.3 indicates, the majority of the student respondents had educational liberationist ideologies. The minority of the student respondents had educational anarchist and educational intellectualist ideologies, being 7,5% and 4,7% respectively. As Table 4.4 shows, 48,1% of the student respondents had general conservatist educational ideologies, and 51,9% of the student respondents had general liberalist ideologies.

Table 4.3

Distribution of the Students in terms of their specific Educational Ideologies

Educational Ideologies	Number of Students	Percent
Educational Fundamentalism	59	18,4
Educational Intellectualism	15	4,7
Educational Conservatism	63	19,7
Educational Liberalism	48	15,0
Educational Liberationism	111	34,7
Educational Anarchism	24	7,5
Total	320	100,0

Table 4.4

Distribution of the Students in terms of their general Educational Ideologies

General Educational Ideologies	Number of Students	Percent
General Educational Conservatism	154	48,1
General Educational Liberalism	166	51,9
Total	320	100,0

4.2.2. Educational Ideologies of the Academics

In the second part of the questionnaire, academics were given 104 questions that identify their educational ideologies. In this part, it became possible to identify their specific educational ideologies and their general educational ideologies. As Table 4.5 indicates, the majority of the academic respondents had educational liberalist and educational liberationist ideologies. As Table 4.6 shows, 31% of the academic respondents had general conservatist educational ideologies, and 69% of the academic respondents had general liberalist ideologies.

Table 4.5

Distribution of the Academics in terms of their specific Educational Ideologies

Educational Ideologies	Number of Academics	Percent
Educational Fundamentalism	1	1,7
Educational Intellectualism	4	6,9
Educational Conservatism	5	8,6
Educational Liberalism	19	32,8
Educational Liberationism	23	39,7
Educational Anarchism	6	10,3
Total	58	100,0

Table 4.6

Distribution of the Academics in terms of their general Educational Ideologies

General Educational Ideologies	Number of Academics	Percent
General Educational Conservatism	18	31,0
General Educational Liberalism	40	69,0
Total	58	100,0

4.3.Perceived Usefulness of Educational Technology

In this section, the students' and academics' perceived usefulness of educational technology scores will be summarized.

4.3.1. Students' Perceived Usefulness of Educational Technologies

In the third part of the questionnaire, students were given 10 questions that identify their perceived usefulness of educational technology. In this part, it became possible to analyze how useful students perceived educational technology to be. As Table 4.7 indicates, the mean of the students' perceived usefulness of educational technology scores was 4,12. Since the mean of the total score respondents was above 3, students' perceived usefulness of educational technology was high. The students in Faculty of Education, METU, Ankara, Turkey had positive perceptions about the usefulness of educational technology. They had good outcome expectations about educational technologies.

Table 4.7

The Students' Perceived Usefulness of Educational Technologies

Students' Perceived Usefulness of Educational Technologies	
Mean	4,12
Skewness	-,67
Kurtosis	,68

4.3.2. Academics' Perceived Usefulness of Educational Technologies

In the third part of the questionnaire, the academics were given 10 questions that identify their perceived usefulness of educational technology. In this part, it became possible to analyze how useful academics perceived educational technology to be. As Table 4.8 indicates, the mean of the academics' perceived usefulness of educational technology scores was 4,21. Since the mean of the total score respondents was above 3, academics' perceived usefulness of educational technology was high. The academics in Faculty of Education, METU, Ankara, Turkey had positive perceptions about usefulness of educational technology. They had good outcome expectations about educational technologies.

Table 4.8

The Academics' Perceived Usefulness of Educational Technologies

Academics' Perceived Usefulness of Educational Technologies	
Mean	4,21
Skewness	-,49
Kurtosis	,03

4.4.Perceived Ease of Use of Educational Technologies

In this section, the students' and academics' perceived ease of use of educational technology scores will be summarized.

4.4.1. Students' Perceived Ease of Use of Educational Technologies

In the fourth part of the questionnaire, the students were given 10 questions that identify their perceived ease of use of educational technology. In this part, it became possible to analyze the students' perceived ease of use of educational technology. As Table 4.9 indicates, the mean of the students' perceived ease of use of educational technology scores was 3,05. Since the mean of the total score respondents was slightly above 3, the students' perceived ease of use of educational

technology was normal. The students in Faculty of Education, METU, Ankara, Turkey were undecided about the ease of use of educational technologies. Although 60% of the students had computer experience, it was interesting that students didn't have positive perceptions about the ease of use of educational technologies.

Table 4.9

The Students' Perceived Ease of Use of Educational Technologies

Students' Perceived Ease of Use of Educational Technologies	
Mean	3,05
Skewness	,80
Kurtosis	3,06

4.4.2. Academics' Perceived Ease of Use of Educational Technologies

In the fourth part of the questionnaire, the academics were given 10 questions that identify their perceived ease of use of educational technology. In this part, it became possible to analyze the academics' perceived ease of use of educational technology. As Table 4.10 indicates, the mean of the academics' perceived ease of use of educational technology scores was 3,79. Since the mean of the total score respondents was above 3 academics' perceived ease of use of educational technology as normal. The academics in Faculty of Education, METU, Ankara, Turkey perceived educational technologies as easy to use.

Table 4.10

The Academics' Perceived Ease of Use of Educational Technologies

Academics' Perceived Ease of Use of Educational Technologies	
Mean	3,79
Skewness	-,31
Kurtosis	,34

4.5.Attitudes toward Educational Technology

In this section, students' and academics' attitudes toward educational technology scores will be summarized.

4.5.1. Students' Attitudes toward Educational Technology

In the fifth part of the questionnaire, the students were given 18 questions that identify their attitudes toward educational technology. In this part, it became possible to analyze how positive the students' attitudes toward educational technology were. As Table 4.11 indicates, the mean of the students' attitudes toward educational technology scores was 3,28. Since the mean of the total score respondents was slightly above 3, it is not possible to say either that the students had positive attitudes toward educational technology or that they had negative attitudes. The students in the Faculty of Education, METU, Ankara, Turkey didn't have certain attitudes toward educational technology. It is interesting to see that although 61% of the students had computer experience, they didn't have positive attitudes toward educational technology.

Table 4.11

The Students' Attitudes toward Educational Technologies

Students' Attitudes toward Educational Technologies	
Mean	3,28
Skewness	2,04
Kurtosis	13,28

4.5.2. Academics' Attitudes toward Educational Technology

In the fifth part of the questionnaire, academics were given 18 questions that identify their attitudes toward educational technology. In this part, it became possible to analyze how positive the academics' attitudes towards educational technology were. As Table 4.12 indicates, the mean of the academics' attitudes toward

educational technology scores as 3,85. Since the mean of the total score respondents as above 3, the academics had positive attitudes towards educational technology. The academics in the Faculty of Education, METU, Ankara, Turkey had positive attitudes towards educational technology.

Table 4.12

The Academics' Attitudes toward Educational Technologies

Academics' Attitudes toward Educational Technologies	
Mean	3,85
Skewness	-,13
Kurtosis	-,29

4.6.The Use of Educational Technologies

In this section, the students' and academics' actual use of educational technologies scores will be summarized. This part consists of four main sections. These are the overall frequency of educational technology use, the frequency of daily use, the purposes of the use of educational technologies, and the types of software they are using.

4.6.1. The Frequency of Use of Educational Technologies

In this section, the total actual use scores of the students and academics will be presented.

4.6.1.1.Students' Frequency of Use of Educational Technology

In this section, students were asked how often they used computers within educational purposes and how many hours they used them in a day. The results show that students were using computers for educational purposes more than once a week and between one and two hours a day.

Table 4.13

The Students' Actual Use of Educational Technology

Students' Actual Use of Educational Technology		
	The frequency of use (General)	The frequency of use in a day
Mean	4,51	4,15
Skewness	-,66	-,59
Kurtosis	1,37	,61

4.6.1.2.Academics' Frequency of Use of Educational Technology

In this section, academics were asked how often they used computers within educational purposes and how many hours they used them in a day. The results show that academics were using computers nearly once a day and between two and three hours a day.

Table 4.14

The Academics' Actual Use of Educational Technology

Academics' Actual Use of Educational Technology		
	The frequency of use (General)	The frequency of use in a day
Mean	4,86	4,91
Skewness	-1,168	-1,408
Kurtosis	,474	1,948

4.6.2. The Purposes of the Use of Educational Technology

In this section, students and academics were asked to rank their priorities of the purposes of the use of educational technologies.

4.6.2.1.The Rankings of the Students' Purposes of Educational Technology Use

In this section, students were asked to rank their priorities of the purposes of educational technology use. As indicated in Table 4.15, the results show that most of the students were using educational technologies for searching the internet; nearly half of the students were not using educational technologies for educational purposes except for searching on the Internet. The rest usually use educational technologies for various purposes such as presentation, desktop publishing, exercises and applications, telecommunication, and creating web pages. However, none of these purposes had a significant priority in the use of educational technologies.

Table 4.15

Distribution of the Students in terms of their Rankings about the Priority of the Purposes in Using Educational Technology

	The Percentages of the Rankings										
Purposes	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Not using	Missing
Presentation / Demonstration	7,2	11,9	9,4	4,7	3,1	1,3	1,3	0	0	54,4	6,9
Desktop Publishing	9,7	13,8	10,6	4,1	4,1	5,9	3,4	1,9	0,6	38,4	7,5
Exercises and Applications	8,4	11,6	16,6	11,3	6,6	1,9	0,3	0,6	0,9	34,7	7,2
Measurement / Evaluations	2,2	4,1	8,8	5,9	5,6	7,2	6,3	2,8	0,6	49,7	6,9
Telecommunication	7,2	16,6	11,9	8,1	3,4	3,1	5	3,4	1,6	32,2	7,5
Creating Web Pages	0,9	2,2	7,2	3,4	4,4	2,5	2,5	7,8	8,4	53,4	7,2
Search on Internet	56,%	12,5	4,4	2,2	1,6	1,3	0,6	0,3	0,3	13,1	6,9
For other purposes	2,8	7,5	4,4	3,8	2,8	2,2	3,8	5	10,9	48,8	8,1

4.6.2.2.The Rankings of the Academics' Purposes of Educational Technology Use

In this section, academics were asked to rank their priorities of the purposes of educational technology use. As indicated in Table 4.16, the results show that like the students, most of the academics were using educational technologies for searching the internet; also most of the academics were using educational technologies for presentation and demonstration, telecommunication, exercises and

applications, measurement and evaluations. They did not prefer to use educational technologies for peer-to-peer instruction, creating web pages, desktop publishing, or for other educational purposes.

Table 4.16

Distribution of the Academics in terms of their Rankings about the priority of the Purposes in Using Educational Technology

	The Percentages of the Rankings										
Purposes	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Not using	Missing
Presentation / Demonstration	8,6	29,3	15,5	20,7	3,4	3,4	0	0	0	19	0%
Desktop Publishing	8,6	1,7	10,3	5,2	1,7	5,2	8,6	8,6	1,7	48,3	0%
Exercises and Applications	3,4	12,1	15,5	12,1	10,3	6,9	6,9	1,7	1,7	29,3	0%
Measurement / Evaluations	5,2	5,2	19	12,1	10,3	15,5	3,4	5,2	0	24,1	0%
Peer-to-peer instruction	1,7	5,2	3,4	5,2	6,9	5,2	12,1	10,3	6,9	43,1	0%
Telecommunication	8,6	20,7	8,6	6,9	6,9	3,4	3,4	5,2	0	36,2	0%
Creating Web Pages	0	0	1,7	6,9	6,9	3,4	10,3	12,1	10,3	48,3	0%
Search on Internet	63,8	17,2	8,6	1,7	3,4	0	0	0	0	5,2	0%
For other purposes	1,7	1,7	3,4	5,2	12,1	12,1	3,4	0	17,2	43	0%

4.6.3. The Types of Software being used for Educational Purposes

In this section, students and academics were asked to specify the types of software they are using for educational purposes.

4.6.3.1.The Types of Software that Students are using for Educational Purposes

In this section, students were asked to specify the types of software they were using for educational purposes. As Table 4.17 indicates, most of them were using word processors, presentation and desktop publishing software, web browsers and email programs. Nearly half of the students were using spreadsheet programs, and most of them were not using database applications, educational software, educational games, graphical designers, and programming language programs.

Table 4.17

Distribution of the Students in terms of the types of software that they are using

	The Types of Software that Students are using for Educational Purposes					
	Used		Not Used		Missing	
Types of Software	Number of Students	Percent	Number of Students	Percent	Number of Students	Percent
Word Processors	238	74,4	68	21,3	14	4,4
Spreadsheet Applications	152	47,5	154	48,1	14	4,4
Presentation and Desktop Publishing Software	202	63,1	104	32,5	14	4,4
Database Applications	22	6,9	284	88,8	14	4,4
Educational Software	69	21,6	237	74,1	14	4,4
Educational Games	81	25,3	225	70,3	14	4,4
Other	43	13,4	263	82,2	14	4,4
Graphical Designers	59	18,4	247	77,2	14	4,4
Web Browsers and Email programs	253	79,1	53	16,6	14	4,4
Programming Languages	19	5,9	285	89,1	16	5

4.6.3.2.The Types of Software that Academics are using for Educational Purposes

In this section, academics were asked to specify the types of software they were using for educational purposes. As Table 4.18 indicates, most of the academics were using word processors, spreadsheet applications, presentation and desktop

publishing software, web browsers and email programs. On the other hand, most of the academics also used database applications, educational software, educational games graphical designers, and other sort of programs. None of the academics used programming language programs.

Table 4.18

Distribution of the Academics in terms of the types of software they are using

	The Types of Software that Academics are using for Educational Purposes					
	Used		Not Used		Missing	
Types of Software	Number of Academics	Percent	Number of Academics	Percent	Number of Academics	Percent
Word Processors	56	96,6	2	3,4	0	0
Spreadsheet Applications	48	82,8	10	17,2	0	0
Presentation and Desktop Publishing Software	51	87,9	7	12,1	0	0
Database Applications	5	8,6	53	91,4	0	0
Educational Software	17	29,3	41	70,7	0	0
Educational Games	14	24,1	44	75,9	0	0
Other	14	24,1	44	75,9	0	0
Graphical Designers	10	17,2	48	82,8	0	0
Web Browsers and Email programs	55	94,8	3	5,2	0	0
Programming Languages	0	0	58	100	0	0

4.7.The Effects of Educational Ideologies on Technology Acceptance

In this section, the effects of educational ideologies on both students' and academics' acceptance of technology will be investigated. Two pairs of a one-way analysis of variance were conducted to investigate the effect of students' educational ideologies on students' acceptance of technology, and a one-way analysis of variance was conducted to investigate the effects of academics' educational ideologies on academics' acceptance of technology. The other one-way analysis of variance was not conducted to investigate the effects of academics' specific educational ideologies on academics' acceptance of technology due to the small size of the categories separated according to the academics' specific educational ideologies.

The independent variable, educational ideologies, included two main levels and six sub levels. The two main levels are general educational conservatism, and general educational liberalism; the six sub levels are educational fundamentalism, educational intellectualism, educational conservatism, educational liberalism, educational liberationism, and educational anarchism. The dependent variable, technology acceptance, included four levels: perceived usefulness of technology, perceived ease of use of technology, attitudes toward technology, and the use of technology.The Significance level was set at 0.05.

4.7.1. The Effect of Students' Educational Ideologies on Students' Technology Acceptance

4.7.1.1. The Effect of Students' General Educational Ideologies on Students' Technology Acceptance

A one-way analysis of variance was conducted to investigate the effect of the students' general educational ideologies on their acceptance of technology.

Table 4.19

Perceived Usefulness, Perceived Ease of Use, Attitudes toward Technology, Frequency of Use in terms of their General Educational Ideologies – Perceived Usefulness of Technology, Perceived Ease of Use, Attitudes toward use, Frequency of Use Scores

Technology Acceptance Factors	General Educational Ideologies	Mean	N	Std. Deviation	Minimum	Maximum
Perceived Usefulness	General Educational Conservatism	4,07	154	0,69	2,00	5,00
	General Educational Liberalism	4,16	166	0,61	2,00	5,00
Perceived Ease of Use	General Educational Conservatism	3,06	154	0,32	2,41	4,60
	General Educational Liberalism	3,04	166	0,28	2,30	3,90
Attitudes toward Use	General Educational Conservatism	3,17	154	0,26	2,61	4,06
	General Educational Liberalism	3,19	166	0,25	2,40	4,18
The Frequency of Use	General Educational Conservatism	4,38	144	1,10	1	6
	General Educational Liberalism	4,64	157	1,00	1	6

Table 4.19 indicated that the means of the all factors are closer to each other. Due to the missing data, the group sizes aren't same in all groups. Standard

deviations indicated that the variance in sub groups, that may affect the reliability of the results in future.

Table 4.20

Students' Technology Acceptance Factors in terms of their General Educational Ideologies – ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Students' Perceived Usefulness of Educational Technology	Between Groups (Combined)	,662	1	,662	1,551	,214
	Within Groups	135,732	318	,427		
	Total	136,394	319			
Students' Perceived Ease of Use of Educational Technology	Between Groups (Combined)	,024	1	,024	,275	,601
	Within Groups	28,673	318	,090		
	Total	28,698	319			
Students' Attitudes toward Educational Technology	Between Groups (Combined)	0,025	1	236,164	,404	,526
	Within Groups	19,982	318	51,199		
	Total	20,007	319			
Students' Frequency of Use of Educational Technology	Between Groups (Combined)	5,154	1	5,154	4,669	,032
	Within Groups	330,056	299	1,104		
	Total	335,209	300			

The ANOVA showed that there were statistically significant mean differences across students' general educational ideologies with respect to the students' frequency of use of technology. F (1,299) = 4.67, p=0.03, η^2 = 0.015. The results shown in Table 4.20 indicated that there was a statistically significant mean difference between general educational conservatism (μ=4.38) and general educational liberalism (μ=4.64) in frequency of use (p = 0.03). There was no

significant mean difference between students across students' general educational ideologies with respect to the students' perceived ease of use of technology, perceived usefulness of technology, or attitudes toward technology. As a trend, generally educational liberalist students used technology in education more frequently than generally educational conservatist students.

4.7.1.2. The Effect of Students' Specific Educational Ideologies on Students' Technology Acceptance

A one-way analysis of variance was conducted, to investigate the effect of general educational ideology on technology acceptance. The independent variable, the specific educational ideologies of the students, included six levels: educational fundamentalism, educational intellectualism, educational conservatism, educational liberalism, educational liberationism, and educational anarchism. The dependent variables were the factors of TAM – perceived ease of use, perceived usefulness, attitudes toward technology, and frequency of use of technology.

Table 4.21

Perceived Usefulness, Perceived Ease of Use, Attitudes toward Technology, Frequency of Use in terms of their Specific Educational Ideologies – Perceived Usefulness of Technology, Perceived Ease of Use, Attitudes toward Use, Frequency of Use Scores

Technology Acceptance Factors	Specific Educational Ideologies	Mean	N	Std. Deviation	Minimum	Maximum
Perceived Usefulness	Educational Fundamentalism	3,82	59	,78	2,00	5,00
	Educational Intellectualism	4,37	15	,59	3,60	5,00
	Educational Conservatism	4,13	63	,78	2,00	5,00
	Educational Liberalism	4,21	48	,51	2,89	5,00
	Educational Liberationism	4,22	111	,53	2,30	5,00
	Educational Anarchism	3,98	24	,53	3,20	5,00
Perceived Ease of Use	Educational Fundamentalism	3,05	59	,28	2,50	3,50
	Educational Intellectualism	3,26	15	,53	2,70	4,60
	Educational Conservatism	3,05	63	,25	2,41	3,50
	Educational Liberalism	3,12	48	,38	2,40	4,20
	Educational Liberationism	2,97	111	,24	2,30	3,50
	Educational Anarchism	3,17	24	,26	2,70	3,90
Attitudes toward Use	Educational Fundamentalism	3,18	59	,30	2,61	4,06
	Educational Intellectualism	3,23	15	,37	2,77	4,18
	Educational Conservatism	3,22	63	,24	2,71	3,78
	Educational Liberalism	3,14	48	,21	2,72	3,83
	Educational Liberationism	3,18	111	,22	2,40	4,11
	Educational Anarchism	3,20	24	,26	2,83	3,61
The Frequency of Use	Educational Fundamentalism	4,55	55	1,07	1	6
	Educational Intellectualism	4,27	15	,80	3	6
	Educational Conservatism	4,31	59	1,30	1	6
	Educational Liberalism	4,49	47	,95	1	6
	Educational Liberationism	4,63	105	,99	1	6
	Educational Anarchism	4,65	20	,93	3	6

Table 4.21 indicated that especially some sub group sizes are very small to evaluate the mean differences in sub groups. It prevents to investigate the effect of specific educational ideologies on technology acceptance.

Table 4.22

Students' Technology Acceptance Factors in terms of their Specific Educational Ideologies –ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Students' Perceived Usefulness of Educational Technology	Between Groups (Combined)	8,121	5	1,624	3,976	,002
	Within Groups	128,274	314	,409		
	Total	136,394	319			
Students' Perceived Ease of Use of Educational Technology	Between Groups (Combined)	2,012	5	,402	4,735	,000
	Within Groups	26,686	314	,008		
	Total	28,698	319			
Students' Attitudes toward Educational Technology	Between Groups (Combined)	,233	5	,004	,738	,595
	Within Groups	19,775	314	,006		
	Total	20,007	319			
Students' frequency of Use of Educational Technology	Between Groups (Combined)	5,322	5	1,064	,952	,448
	Within Groups	329,887	295	1,118		
	Total	335,209	300			

The ANOVAs conducted with the dependent variables, perceived usefulness and perceived ease of use, were significant, the others were not significant. For the dependent variable, perceived usefulness, the ANOVA showed that there were significantly mean differences across specific educational ideologies

with respect to perceived usefulness of technology. F (5,314) = 3.98, p = 0.002. Since Levene's test of equality of error variances was significant, the Dunnett C test was conducted to evaluate pairwise differences among the means. The results shown in Table 4.22 indicated that there was a statistically significant mean difference between educational fundamentalist students (μ=3.82) and other students except educational anarchist students (μ=3.98) in perceived usefulness. Educational fundamentalist students considered the use of educational technologies less useful in education than all other students except educational anarchist students. There was no significant mean difference between educational anarchist students and other students. For the dependent variable, perceived ease of use, the ANOVA showed that there were significant mean differences across specific educational ideologies with respect to perceived ease of use of technology. F (5,314) = 4.74, p = 0.000. Since Levene's test of equality of error variances was significant, the Dunnett C test was conducted to evaluate pairwise differences among the means. The results shown in Table 4.22 indicated that there was a statistically significant mean difference between educational liberationist students (μ=2.97) and other students in perceived ease of use. Educational liberationist students considered the use of educational technologies more difficult than other students.

4.7.2. The Effect of Academics' General Educational Ideologies on Academics' Technology Acceptance

A one-way analysis of variance was conducted to investigate the effect of academics' general educational ideologies on their acceptance of technology.

Table 4.23

Perceived Usefulness, Perceived Ease of Use, Attitudes toward Technology, Frequency of Use in terms of their General Educational Ideologies – Perceived Usefulness of Technology, Perceived Ease of Use, Attitudes toward Use, Frequency of Use Scores

Technology Acceptance Factors	General Educational Ideologies	Mean	N	Std. Deviation	Minimum	Maximum
Perceived Usefulness	General Educational Conservatism	3,98	18	0,69	2,50	5,00
	General Educational Liberalism	4,32	40	0,53	3,10	5,00
Perceived Ease of Use	General Educational Conservatism	3,78	18	0,46	3,10	4,60
	General Educational Liberalism	3,80	40	0,39	2,60	4,60
Attitudes toward Use	General Educational Conservatism	3,88	18	0,47	3,11	4,67
	General Educational Liberalism	3,83	40	0,43	2,83	4,61
The Frequency of Use	General Educational Conservatism	4,50	18	1,92	1	6
	General Educational Liberalism	5,03	40	1,27	1	6

Table 4.23 indicated that standard deviations are small in some groups and sub group sizes are small, these groups may give clues, but further studies with bigger groups may give more reliable results.

Table 4.24

Academics' Technology Acceptance Factors in terms of their General Educational Ideologies – ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Academics' Perceived Usefulness of Educational Technology * Academics' General Educational Ideologies	Between Groups (Combined)	1,460	1	1,460	4,227	,044
	Within Groups	19,339	56	,345		
	Total	20,798	57			
Academics' Perceived Ease of Use of Educational Technology * Academics' General Educational Ideologies	Between Groups (Combined)	,001	1	,001	,062	,804
	Within Groups	9,580	56	,171		
	Total	9,591	57			
Academics' Attitudes toward Educational Technology * Academics' General Educational Ideologies	Between Groups (Combined)	,003	1	,003	,183	,671
	Within Groups	10,903	56	,195		
	Total	10,939	57			
Academics' Frequency of Use of Educational Technology * Academics' General Educational Ideologies	Between Groups (Combined)	3,422	1	3,422	1,527	,222
	Within Groups	125,475	56	2,241		
	Total	128,897	57			

The ANOVA showed that there were statistically significant mean differences across academics' general educational ideologies with respect to the academics' perceived usefulness of technology. F (1,56) = 4,227, p=0.04. The results indicated that there was a statistically significant mean difference between general educational conservatist and general educational liberalist academics in perceived usefulness of technology. There was no significant mean difference between academics across academics' general educational ideologies with respect to the academics' perceived ease of use of technology, attitudes toward technology, and the frequency of use of technology. As a trend, general educational liberalist academics consider technology more useful than general educational conservatist academics.

CHAPTER 5

CONCLUSIONS AND DISCUSSIONS

This final chapter presents conclusions of the study, and discussions for practice and research.

5.1. Conclusions

The purpose of this study is to investigate the effect of both students' and academics' educational ideologies on their acceptance of technology, and to find out whether there are differences in the perceived ease of use of technology, perceived usefulness of technology, attitudes toward technology, and the frequency of use of technology in education in terms of their educational ideologies.

The first research question was "What is the effect of the students' educational ideologies on their acceptance of technology?" The answer was sought through a consideration of four main determinants of technology acceptance: perceived ease of use, perceived usefulness, attitudes toward use, and frequency of use. In this respect, the answers of the sub questions were expected to give the answer to the main question. It was found that educational ideologies affected academics' technology acceptance by affecting only their perceived usefulness of technology, not the other factors. General conservative academics' in the sample perceived educational technology less useful than the general liberal ones.

The second research question was "What is the effect of the academics' educational ideologies on their technology acceptance?" The answer was sought through a consideration of four main determinants of the technology acceptance: perceived ease of use, perceived usefulness, attitudes toward use, and frequency of use. It was found out that educational ideologies also affected students' technology acceptance by affecting their frequency of use of technology. General conservative students in the sample use educational technologies less than liberal ones.

5.2. Discussion

In this study, it has been tried to shed light on some issues about the integration and diffusion of technology into education. The usefulness of technology has been argued for a long time and the same features of technology have been seemed as both the potentials and pitfalls of technology. For instance, Steel and Hudson (2001) reported that although educational technology has disconnecting features as well as those that enhance levels of communication, is strong. The roles of technologies in education have been changing person to person. Moreover, these differences between the perceptions of users about technology affected the quality of their technology use in education. In this aspect, the term, technology acceptance, comes into light. In a broad sense, the question was what makes people to accept or refuse technology in education. However, the answer was not easy to answer because there might be too many reasons that were possible to cause this behavior. After numerous researches, it was found out that there were a lot of variables. However, they were not able to form a strong construct for solving the current problems living in education. In 2003, Legris et. al. concluded their study with emphasizing that there should be a significant factor which might cover both human and social change processes, and the adoption of innovation model. Unfortunately, the studies conducted on this issue couldn't get out of their relatively narrow scope. All the solutions were sought in a pool of technology related matters. Therefore, most of the studies were not more than bits and pieces. While educators were asked about their concerns related with educational technology, in addition to the problems in adapting new technologies, they mentioned about the concerns related to classroom management, their changing role with the integration of technology, the changing structure of education and other things about education.

O'Neil (1995) reports from Chris Dede in their interview that new technologies can help transform schools – but only if they are used to support new models of teaching and learning. However, the problem is whether our educators are ready to use new teaching and learning methods. It was known that some of the teachers strongly supported the traditional methods rather than the new ones. Hannah (1998) also emphasized that the solutions of the problems in the integration of technology come up with creating intellectual comprehension rather than purchasing

new technologies and also as Strommen (1992) argued that technological changes that have affected society have left educational systems largely unaltered and the process of teaching relatively unchanged. (as cited in Semple, 2000, p. 21).

In this study, educational ideologies were tested as a factor affecting the technology acceptance since educational ideologies cover the issues of both human and social change processes, and the adoption of innovation model. There are two basic educational ideologies; the general conservative educational ideologies and general liberal ones. The self-realization is the keyword in both of the ideologies. Every person wants to be happy and this happiness caused by the self-realization. In order to have self-realization, people need to have some beliefs, values, and truths which are shaped according to their ideologies. The main difference between ideologies is in how they view self-realization. Conservative tends to view self-realization as an end to be approached only indirectly through an overriding dedication to some absolute reality – God, natural law, tradition, or whatever – that transcends human experience, however, the Liberal sees man as primary, the source of all knowledge whatsoever (O'Neill, 1990). The difference in these ideologies differentiates the people in educational context. It changes all the points of view in education, thus the practices in education.

This study separates students as pre-service teachers and academics as instructors of the pre-service teachers because the perceptions of the students and academics may differ due to their positions and their closeness to the educational matters and technology-related matters.

This study showed that there are some differences between students and academics considering to their educational ideologies and their technology acceptance. First of all, half of the students but most of the academics had general liberal educational ideologies. This study didn't show the changes of educational ideologies between the grades or titles of the sample. If there is a difference in educational ideologies between the students with different grades this difference might be due to the behavioral modeling that students saw their high school teachers as their models and adapt their high school teachers' ideologies as their own ideologies. Since most of the students are in first year and the data gathered in the first term of the academic year, the students might not adapt to the faculty and might be under effect of their high school teachers. The difference between the students and

academics might be due to sample selection of the academics since most of the academics are research assistants and only a few of them are professors. Therefore, the increase in the number of the professors might change the results of the study in further researches. This study showed that the percent of the liberal academics is greater than the percent of the students. However, this study didn't cover the entire population, so with different sample, different results could be reached.

Although both students and academics perceived educational technologies as useful in general, there is only the effect of educational ideologies on academics' perceived usefulness. This might be due to the individual differences between general perceptions of academics. Because students most probably were used to computers since they were born, they might totally give positive answers; and this might be the reason of why there is only an effect of educational ideologies on academics' technology acceptance. Academics are the ones who use educational technology to teach and students are the ones who use educational technologies to learn. On one hand, students might use educational technologies individually, so he or she might not encounter with the problems. On the other hand, academics are the ones who uses educational technologies with their students and who might encounter some problems in education. So, the approaches might differ from the point of views of academics and students.

There is no effect of educational ideologies on perceived ease of use of both students and academics. This is one of the expected results because the perceived ease of use of educational technologies is dependent on computer anxiety, computer self-efficacy and some similar things which are related with computers. And our factor is not directly dependent on technology.

There is no effect of educational ideologies on students' and academics' attitudes toward technology. This might be due to the reasons mentioned above. In literature, attitudes seemed dependent on technology-related matters. This might cause no effect of educational ideologies on attitudes of academics and students.

There is an effect of educational ideologies on students' frequency of use of educational technologies. There is no effect of educational ideologies on academics' frequency of use of educational technologies. This might be due to the fact that academics use educational technologies only to prepare their documentation, not for active teaching. Students also use technology for searching on web. If academics use

educational technology for teaching, there should be some differences between academics' frequency of use of educational technologies in terms of their educational ideologies.

One of the striking results of this study is that all of the means of the scores of the academics in perceived usefulness, perceived ease of use, attitudes toward use and frequency of use were higher than those of the students. The reason for this finding is worth researching further.

5.3. Implications for Practice

This study presented the profile of the faculty and students of School of Education at METU, Turkey, in terms of their educational ideologies and their acceptance of technology. The results indicated that 51,9 % of the students and 69% of the academics have liberal educational ideologies. Both academics and students perceived educational technologies useful in education. Although students are undecided about the ease of use of educational technologies, academics thought that educational technology is easy to use. Both students and academics have positive attitudes toward educational technology. Both students and academics use educational technologies frequently. But, the quality of their use is limited to some sort of programs and some purposes to use these technologies. The Middle East Technical University and the Faculty (school) of Education in this university have a guiding role in the higher education system of Turkey. Nearly 400 students graduate from this faculty every year and most of them become educators. In this sense, the results gathered from this study gave significant clues about the ongoing process of the Turkish Educational system. This study indicated that 69% of the academics who responded to the survey had liberal educational ideologies.

In this respect, most of the faculty members, who hold liberal educational ideologies, were expected not to resist change and to be open to all innovations. Furthermore the adoption of new technologies was expected to be much easier than in a faculty holding conservative educational ideologies. The results of this study indicate that theoretical assumptions are different from practical results since there is no difference between the frequencies of use of educational technologies. There is only difference between the perceptions of usefulness of technology in education. So,

the pressing question has now become “What are the other obstacles that prevent people from using educational technologies”. Although most of the faculty who responded to the survey use technology more than once in a week and almost once a day, the kinds of programs and the purposes of using technology show that the faculty did not use technology effectively as desired. Most of them do not use educational software and almost none of the participating faculty members use technology in their instruction effectively. They use the technology as a tool to prepare their materials or to search on the internet. Hudson and Steel (2001) also found the same results in their study.

The students’ point of view for the same matter is different from that of the academics. The students with liberal educational ideologies use educational technologies more frequently than the students with more conservative educational ideologies. This is a factor affecting the use of technology. In the students’ sample, there seemed to be an effect of educational ideologies on their acceptance of technology.

The research question of this study arose from the search for a more significant factor that has an effect on users' acceptance of technology. Wolski and Jackson (1999) mentioned resistance to change in education and declared that recent experience with new instructional technology suggested that change in educational organizations is as problematic as change in any other organization. This study showed that most of the faculty and half of the students will most probably not show resistance to change because they adopted the liberal educational ideologies which make people open to change. The problem of not using technology effectively may be due to some other reasons. The faculty might not have enough sufficient hardware, software, and technical staff. The faculty has approximately 400 computers for educational and administrative uses. In addition to this, only approximately 150 computers were maintained for students in the computer labs. The Faculty of education has more than 1500 students and the ratio of student per computer is less than 1 / 8, which is a standard for education. This might be a reason for students but not for academics since nearly every academic has his or her personal computer in his or her office. Moreover, there is a technology resource center which supplies hardware and software for educational purposes. So, the perceived usefulness or lack of usefulness of educational technologies may be a

reason for not using technology in the classroom environment, since 67% of the sample has computer education in some fashion or other. Thus the reason shouldn't be lack of prior computer experience, if they really had sufficient education. Moreover, perceived usefulness affects the future technology use (Davis, 1989, 1993; Keil et. al. 1995; Chau, 1996; Igbaria et. al., 1997; Gefen and Keil, 1998; Agarwal and Prasad, 1997).

5.4. Implications for Further Research

This study reflected how the academics and students in the Faculty of Education, METU, approached education as a whole, including the dimensions of the overall goal of education, the objectives of the school, general characteristics, the child as learner, administration and control, the nature of the curriculum, subject matter, instructional methods and evaluation, classroom control. Furthermore, it also reflected how the academics and students in the Faculty of Education, METU approached the use of technology and technology as a whole concept. The study showed that most of the academics and half of the students have liberal educational ideologies; that is, they adopt a more open and student-centered kind of education, focusing more on scientific problem-solving and critical thinking abilities. These are reflections of what academics and students expected from education. But still the teachers' reflections in the elementary and secondary education remain unclear.

This study also indicated that there is diversity in the academics and students' educational ideologies. These ideologies reflect their preferences about the instructional methods. As also emphasized previously, O'Neil (1995) pointed out that new technologies can help transform schools – but only if they are used to support new models of teaching and learning. Too often we have attempted to integrate technological solutions into old-fashioned structures and traditional approaches to learning. As the results of this study support that the academics who had conservative educational ideologies perceive technologies less useful than the liberal ones. By the help of their educational ideologies, we now know what the academics and students in our sample expect from education. However, the thing that was unclear is how they approach education in Turkey. What do they think about the current educational system in Turkey? Is it traditional or more innovational? Does it

fit with the technology? This study clearly indicated that the academics and half of the students adopted liberal educational ideologies, not conservative educational ideologies.

One of the questions to be answered is what the educational ideologies of the other academics, teachers, pre-service teachers, and the students are. In the case of educators and students being educationally more conservative, making changes in the educational system and in the integration of the technology may be difficult. As Wolski and Jackson (1999) claimed, change in educational organizations is as problematic as change in any other organization. The other question is how much technology acceptance the academics, teachers, pre-service teachers and students have. Some further studies could be conducted for teachers in order to gain more insight into the two concepts: technology acceptance and educational ideology. In addition, qualitative studies might also be conducted to strengthen the predictions and interpretations of this study. The findings of these studies will hopefully shed some more light on the literature of the area and also will solve some of the problems encountered in the technology adoption process.

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APPENDIX A

THE QUESTIONNAIRE

Eğitim Görüşleriyle Kişilerin Sahip Olduğu Teknoloji Kabulü Arasındaki İlişkinin Tespitine Yönelik Anket

Değerli arkadaşlar,

Eğitimcilerin eğitim görüşleri ile teknoloji kabulüne yönelik ilişkilerin belirlenmesi amacıyla oluşturulmuş olan bu ankette yer alan sorulara vereceğiniz cevaplar tamamıyla bilimsel amaçlar için kullanılacak, başka hiçbir kurum veya kuruluşa verilmeyecektir. Araştırma bulgularında, kimliğinizi belirtecek hiç bir bilgi yer almayacak ve ayrıca doldurduğunuz anketler sadece tarafımca ulaşılabilir olacaktır.

Ankette çoktan seçmeli ve dereceleme gerektiren sorular bulunmaktadır. Her bölümün başında bölümle ilgili gerekli açıklamalar yapılmıştır.

Araştırmaya yaptığınız katkıdan dolayı teşekkür ederim.

Araştırmanın Konusu: Eğitim Görüşleriyle Teknoloji Kabulü Arasındaki İlişkinin Tespitine Yönelik Durum Çalışması

Araştırmacı: Arş. Gör. Devrim Özdemir
ORTA DOĞU TEKNİK ÜNİVERSİTESİ
Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümü
Tel: 0 312 210 4186
E-Posta: dozdemir@metu.edu.tr

Danışmanlar: Yrd. Doç Dr. Kürşat Çağıltay
Yrd. Doç. Dr. Ercan Kiraz

KİŞİSEL BİLGİLER

Bölüm A: Sadece akademik personel cevaplayacaktır.

- Görev yaptığınız bölümü yanına (X) işareti koyarak belirtiniz.

O	YDE	O	BÖTE	O	BES	O	İÖ	O	OÖFMAE	O	EB

- Ünvanınız:.....
- Cinsiyetiniz: O Erkek O Kadın

Yaşınız:	Hizmet Süreniz:	Bilgisayara yönelik olarak aşağıdaki eğitimlerden hangisi ya da hangilerini aldınız? (Birden fazla seçenek işaretleyebilirsiniz.)
O 15 – 20 O 20 – 25 O 26 – 30 O 31 – 35 O 36 – 40 O 41 – 45 O 46 – 50 O 50 üstü	O 1 – 5 O 6 – 10 O 11 – 15 O 16 – 20 O 21 – 25 O 26 – 30 O 30 üstü	O Bilgisayar Kursu O Hizmet İçi Eğitim O Özel Eğitim O Lisans Eğitimi O Diğer O Hayır almadım

Bölüm B: <u>Sadece öğrenciler cevaplayacaktır.</u>

- Öğrenim gördüğünüz bölümü yanına (X) işareti koyarak belirtiniz.

O	YDE	O	BÖTE	O	BES	O	İÖ	O	OÖFMAE	O	EB

- Sınıfınız:.....
- Cinsiyetiniz: O Erkek O Kadın
- Mezun olduğunuz okul türünü yazınız: (Ör. Anadolu Lisesi).....

Yaşınız:	Bilgisayara yönelik olarak aşağıdaki eğitimlerden hangisi ya da hangilerini aldınız? (Birden fazla seçenek işaretleyebilirsiniz.)
O 15 – 20 O 20 – 25 O 26 – 30 O 31 – 35 O 36 – 40 O 41 – 45 O 46 – 50 O 50 üstü	O Bilgisayar Kursu O Hizmet İçi Eğitim O Özel Eğitim O Lisans Eğitimi O Diğer O Hayır almadım

EĞİTİME BAKIŞ AÇILARI

YÖNERGE: Aşağıdaki sorular eğitim görüşlerini belirlemek amacıyla hazırlanmıştır. Lütfen soruların her birini cevaplayınız. Cevaplarken sorunun sağında bulunan yuvarlaklardan yalnız birini işaretleyiniz. Aşağıdaki soruları "**Kesinlikle Katılıyorum,**" "**Katılıyorum**", "**Kararsızım,**" "**Katılmıyorum,**" ve "**Kesinlikle Katılmıyorum**" şeklinde ve içine (X) işareti koyarak cevaplayınız.

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
1. Öğretmenin esas amacı, bilgiyi aktarmaktan ziyade öğrencileri motive etmek, onlarda öğrenmeye karşı ilgi ve istek uyandırmak olmalıdır.	O	O	O	O	O
2. En değerli bilgi, simgesel ve soyut düşünceyi içeren bilgidir.	O	O	O	O	O
3. Başka görüşlere saygı gösteren ve baskıcı olmayan okullar açık görüşlü ve baskıcı olmayan insanların yetişmesine olanak sağlar.	O	O	O	O	O
4. Denilebilir ki, bireyin mutluluğu onun toplumda geçerli olan düşünce ve davranışlara ayak uydurmasına bağlıdır.	O	O	O	O	O
5. Okullar öğrencilere ahlaki değerleri öğretmeli; öğrencilerin toplumca kabul edilen değerleri benimsemelerine yardımcı olmalıdır.	O	O	O	O	O
6. Kişiler arasındaki fiziksel, ruhsal ve toplumsal farklılıklar o kadar belirgindir ki, bu farklılıklar herkese aynı ya da benzer eğitimin uygulanması ilkesine ters düşer.	O	O	O	O	O
7. İlkokula giden bir çocuk kendi eğitimi konusunda sorumluluk gerektiren kararları çoğu zaman kendi başına alabilecek olgunlukta değildir.	O	O	O	O	O
8. Sınıf içinde yaşanan davranış sorunları genelde öğrencilerin yeterince motive edilmediğini gösterir.	O	O	O	O	O
9. Geleneksel öğretim yöntemleri öğrencilere kendilerini kontrol etmeyi ve otoriteye saygı göstermeyi öğreterek ahlaki değerlerin oluşumuna katkıda bulunurlar.	O	O	O	O	O
10. Öğrencilerin mutlak ve kalıcı inançlara dayalı mutlak ve kalıcı ahlaki değerleri benimsemeleri beklenmelidir.	O	O	O	O	O
11. Genel olarak ifade etmek gerekirse, uygun eğitim koşulları sağlanması halinde okul çağındaki çocuk ne tür bir eğitimin kendi kişisel gereksinimlerine en iyi şekilde cevap vereceği konusunda karar veren kişi olmalıdır.	O	O	O	O	O

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
12. Okul toplumca genel kabul gören kültürel kurumların, geleneklerin ve süreçlerin benimsenmesini desteklemelidir.	O	O	O	O	O
13. Okul, bireysel ve grup olarak problem çözme yöntemleri üzerinde yoğunlaşmalıdır.	O	O	O	O	O
14. Ortaöğretim öğrenciyi belirli bir toplumsal görev ya da konuma uygun şekilde yetiştirmek yerine, onun bir insan olarak yaşamdaki rolüne ağırlık vererek genel anlamda hayata hazırlamalıdır.	O	O	O	O	O
15. Devlet okullarındaki öğretmenler, kişisel becerilerin tam olarak gelişmesini engelleyen toplumsal koşulları eleştirmede özgür olmalıdırlar.	O	O	O	O	O
16. Birey kendisini, kendisine ve diğerlerine yönelik, davranışları yoluyla tanımlar.	O	O	O	O	O
17. Eğitim geleneksel ilke ve uygulamalar temelinde yürütülmelidir.	O	O	O	O	O
18. Bilimin insani değerlerin oluşturulması için geçerli bir temel oluşturması isteniyorsa, din ve geleneksel felsefe gibi daha güvenilir bir bilgi bütünü aracılığıyla öğretilmesi gerekir.	O	O	O	O	O
19. Öğretmen gerek ahlaki anlamda gerekse bilimsel anlamda mükemmellik örneği olmalıdır.	O	O	O	O	O
20. Okul yasal sınırlamalardan arındırılmış ve kişisel özgürlük temelinde örgütlenmiş bir toplum içinde etkin olarak rol alabilecek türde öğrenciler yetiştirmeyi amaç edinmelidir.	O	O	O	O	O
21. En iyi toplum, herkese en üst düzeyde toplumsal adalet sağlamak için düzenlenmiş olan demokratik sosyal devlet temelinde örgütlenmiş bir toplumdur.	O	O	O	O	O
22. Yasalara ve düzene duyulan derin saygı yapıcı toplumsal değişimin ana temelidir.	O	O	O	O	O
23. Okullar temelde insanı insan olarak görmeli, yani tüm insanlara özgü değişmez insan doğası üzerinde yoğunlaşmalıdır.	O	O	O	O	O
24. Eğitimin aslında esas amacı şudur: Eğitim hayatın kendisidir ve yalnızca bazı durumlarda geleceğe yönelik bir hazırlıktır.	O	O	O	O	O
25. İlkokulda ezber ve alıştırmalar uygun bir biçimde kullanılmalıdır.	O	O	O	O	O
26. Günümüz ve gelecek ile ilgili etkili kararlar almak için en güvenilir rehber olarak, geçmişte elde edilmiş yanıtlara ve akla dayalı bir düşünme biçimi okullar tarafından teşvik edilmelidir.	O	O	O	O	O

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
27. Okullar mevcut toplumsal düzen içinde daha insancıl bir toplum yaratmak için gerekli olan değişikliklerin öğretilmesine önem vermelidir.	O	O	O	O	O
28. Okul insanların kendi kendilerini yönetebildikleri ve ahlaklı kişiler olarak yaşamalarının mümkün olacağı ütopik bir dünya görüşünü vurgulamalıdır.	O	O	O	O	O
29. Demokrasi eğer eğitime yön verecek bir araç olarak etkili olacaksa, kalıcı ve sık değişmeyen bir ahlaki değerler bütününce desteklenmelidir.	O	O	O	O	O
30. En büyük erdem, doğayla ve/veya evrensel kanunlarla uyumlu bir şekilde yaşayabilmektir.	O	O	O	O	O
31. Düşünme ve öğrenme esas olarak çoğunlukla çeşitli grup etkileşimleri yoluyla ortaya çıkan müşterek çabalardır.	O	O	O	O	O
32. Eğitim kişisel inançların bir toplumda geçerli olan sosyo-ekonomik koşullar tarafından belirlendiği gerçeğinden hareketle yürütülmelidir.	O	O	O	O	O
33. Gereğinden fazla öğrenme ve düşünme çoğu zaman bireyin sağ duyusunu zayıflatır.	O	O	O	O	O
34. Okulun temel amacı çocukların var olan toplumsal düzen içinde hayatta kalmaları ve başarılı olmaları için gerek duydukları bilgi ve becerileri onlara aktarmak olmalıdır.	O	O	O	O	O
35. Çoğunluk yönetimi diye bilinen demokratik yöntem akla ve bilimsel temellere dayalı kesin çözümleri kabul etmeyen kişiler arasındaki birebir farklılıkları çözmek için en iyi yoldur.	O	O	O	O	O
36. Mevcut koşullar altında eğitimin denetimi, gerekli sosyal değişiklikleri okullar aracılığıyla gerçekleştirme yeteneğini ve sorumluluğuna sahip aydın bir azınlığa verilmelidir.	O	O	O	O	O
37. Felsefe eğitimi iyi bir eğitimin çok önemli bir parçasıdır.	O	O	O	O	O
38. Okul içinde bulunduğu toplumu temel almalı; o toplumun veya bölgenin ihtiyaçlarına ve ilgi duyduğu konulara ağırlık vermelidir.	O	O	O	O	O
39. Geleneksel öğretim çoğu zaman çocuğun kendi başına öğrenme yeteneğini olumsuz yönde etkilemektedir.	O	O	O	O	O
40. Duygular öğrenmenin her türünde vardır.	O	O	O	O	O

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
41. Eğitimin temel hedefi öğrencilerin hayatın gerçek anlamı olan doğruları tanımlamalarına, korumalarına ve aktarmalarına yardımcı olmak olmalıdır.	O	O	O	O	O
42. Türkiye, Türkleri Türk yapan fikirleri, değerleri ve inançları kaybetme tehlikesi ile karşı karşıyadır	O	O	O	O	O
43. "Nasıl" düşünüleceğini öğrenmek genelde kişinin "ne" düşündüğünden daha önemlidir.	O	O	O	O	O
44. İnsanlık tarihinde bugünü anlamamıza ve gelecekte olacakları tahmin etmemize yardımcı olabilecek değişmez bazı unsurlar vardır.	O	O	O	O	O
45. Öğrencilerin kontrolü ve disiplin ile ilgili sorunlar çoğu zaman öğrenciler de dahil herkesi aşırı kontrol altına alarak bireylerin kişisel sorumluluğunun gelişmesini engelleyen bir toplumsal yapıdan kaynaklanır.	O	O	O	O	O
46. Bilgi toplumca kullanılabildiği ölçüde değerlidir; bilgi öncelikle var olan toplumsal düzene başarıyla uyum sağlayabilmenin bir aracıdır.	O	O	O	O	O
47. Belirli bir durumda yapılacak en "iyi" hareket, o durumda yapılacak en "zekice" harekettir.	O	O	O	O	O
48. Okul kendisini mümkün olabildiğince aklın geliştirilmesiyle sınırlandırmalı, kişisel gelişimin diğer önemli öğelerini din ve aile gibi toplumsal kurumlara bırakılmalıdır.	O	O	O	O	O
49. Psikoloji biyolojinin, zihin de bedenin bir yansımasıdır.	O	O	O	O	O
50. Kişinin gelecekteki gereksinmelerini gidermesinin en iyi yolu şu anki ihtiyaçlarını kendini memnun edecek bir şekilde karşılamasını öğrenmesinden geçer.	O	O	O	O	O
51. Okuldaki Psikolojik Danışma ve Rehberlik hizmetinin gizli amacı toplumsal uyumu sağlamaya yöneliktir.	O	O	O	O	O
52. Eğitim gizli olan doğru ve değerleri ortaya çıkarmaya yönelik yaklaşımlar üzerine temellendirilmelidir.	O	O	O	O	O
53. Bilgi nihayetinde günlük hayattaki sorunların çözümünde kullanılacak bir araçtır.	O	O	O	O	O
54. Örgün eğitim temelde gereksizdir ve insanın engin deneyimine çok az miktarda ya da hiç katkı sağlamaz.	O	O	O	O	O

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
55. Okul geçmiş yada beklenen gelecek üzerinde durmak yerine "bugün" üzerinde yoğunlaşmalıdır.	O	O	O	O	O
56. Okullar her bireyin kendine özgü doğasını dikkate alarak, çocukların özgün kişiliklerine önem vermelidir	O	O	O	O	O
57. Öğretmen zihinsel mükemmeliyetin bir modeli olmalıdır.	O	O	O	O	O
58. İlköğretim öğretmeni, önceden belirlenmiş bir müfredatı sistemli ve kapsamlı bir şekilde işlemeye çalışmalıdır.	O	O	O	O	O
59. Ortaöğretim kurumları tartışmalı toplumsal sorunları ve konuları, bu sorunların altında yatan değerleri ve varsayımları da sorgulayarak irdelemelidir.	O	O	O	O	O
60. Eğitim çocuğun bilişsel deneyimlerinin yanı sıra duygusal, kişilerarası ve bedensel deneyimleri gibi tüm öğeler ile muhakkak ilgilenmelidir.	O	O	O	O	O
61. İnsanların doğruyu algılayışı ve değer yargıları genellikle benzerdir. Bu yüzden öğretim programlarının çeşitlendirilmesine gerek yoktur.	O	O	O	O	O
62. Bu ulusun tarihi her şeyden önce Tanrı'nın takdiriyle yönlendirilen manevi bir tarihtir.	O	O	O	O	O
63. Eğitimin doğası ve nasıl yürütülmesi gerektiği ile ilgili kararlar yaygın görüş ve mesleki uzmanlık yerine öncelikle mantığa dayalı analizlere dayandırılmalıdır.	O	O	O	O	O
64. Toplumsal adalet elde etmek için girişilen akıllı davranışlar eğitimli bir insanın en önemli özelliğidir.	O	O	O	O	O
65. Örgün eğitimde zihinsel gelişme haklı olarak duygusal gelişmeden önce gelir.	O	O	O	O	O
66. Zorunlu eğitim yerini herkese açık olan, ücretsiz ve zorunlu olmayan eğitim fırsat ve olanaklarına bırakmalıdır.	O	O	O	O	O
67. Çocuğun ihtiyaçları ve ilgileri dikkatli bir şekilde saptanmalı, bunlar eğitim programlarının ve uygulamalarının değiştirilmesi için temel alınmalıdır.	O	O	O	O	O
68. Eğitimin kontrolü uygulama sürecine önem veren ve popüler talebe göre ani değişiklik yapmaktan kaçınacak kadar olgun ve sorumluluk sahibi eğitimcilere verilmelidir.	O	O	O	O	O
69. Öğretmen kendini alanına adama ve toplumsal sorunlarla ilgilenme konusunda bir örnek olmalıdır.	O	O	O	O	O
70. En iyi yönetim, en az yönetimdir.	O	O	O	O	O

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
71. Vatanseverlik çocukları tarihimizdeki saygın insanlarla, olaylarla, inançlarla, törelerle ve sembollerle tanıştırarak güçlendirilmelidir.	O	O	O	O	O
72. Öğrenciler örnek vatandaşlık ve toplumca kabul gören davranış ve kültürel düşünceleri benimsemiş iyi birer vatandaş olmak üzere eğitilmelidir.	O	O	O	O	O
73. Tamamen tarafsız olmak mümkün değildir.	O	O	O	O	O
74. Eğitim tartışma götürmez bir şekilde kabul edilen belli mutlak felsefi olgular ve bu olgulardan mantıksal olarak türetilmiş davranış kalıpları üzerine kurulu olmalıdır.	O	O	O	O	O
75. Okul her düzeyde öncelikle öğrencinin kendi kişisel problemlerini başarıyla çözebilme yeteneğini geliştirmesini amaç edinmelidir.	O	O	O	O	O
76. Ortaöğretim, öğrencilerin çoğuna topluma yararlı olabilecekleri bir meslek ya da beceri kazandırmayı hedefleyen mesleki bir eğitim vermelidir.	O	O	O	O	O
77. Esas olarak öğretmen öğrenme faaliyetlerini ve deneyimlerini düzenleyen ve ortaya çıkan sorunlara çare bulan kişi olmalıdır.	O	O	O	O	O
78. Çocuk sağlam bir rehberlik ve iyi bir eğitim almadıkça hataya ve anti-sosyal davranışlara meyillidir.	O	O	O	O	O
79. Çocuklar yerel gelişim projelerine, toplumsal hareketlere, vb. katılarak sınıf içinde öğrendikleri bilgilerden uygun olanlarını okul dışındaki gerçek sorunların çözümünde kullanmak üzere teşvik edilmelidir.	O	O	O	O	O
80. Geleneksel anlamda akademik bilgi ve yetenek edinimi olarak eğitim herkes için gerekli değildir.	O	O	O	O	O
81. Eğitim varolan toplumsal kurumların korunmasına yönelik akıllı ve sorumlu eylemleri vurgulayan bir süreç olmalıdır.	O	O	O	O	O
82. Bilim uygun bir insani değerler sistemi yaratma yetisine sahiptir.	O	O	O	O	O
83. Okullar toplumun genelinin benimsediği kurallara uygun bir biçimde yönetilmelidir.	O	O	O	O	O
84. Okullar toplumca kabul gören inançların ve davranışların eleştirel analizini ve değerlendirmesini yapmalıdır.	O	O	O	O	O
85. Etkili düşünme, tamamen aydın ve insani değerler esas alınarak yapılandırılmış bir toplumda etkin olarak yaşamanın doğal bir yan ürünü olmalıdır.	O	O	O	O	O

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
86. Okul programları, öğrencilerin bireysel olarak ilgi duydukları konulardan daha çok toplumun uzun vadeli gereksinimlerine cevap veren konulara ağırlık vermelidir.	O	O	O	O	O
87. Eğitimin temel hedeflerinden biri bazı köklü ulusal hedefleri dini bağlılığa benzer bir bağlılıkla yeniden yaratmak ve güçlendirmek olmalıdır.	O	O	O	O	O
88. Zaman içinde geçerliliği kanıtlanmış düşünce ve uygulamalar, eğitim etkinlikleri konusunda akla dayalı tahliller üzerine kurulu önermelerden çok daha güvenilir kılavuzlardır.	O	O	O	O	O
89. Bireysel farklılıklar (fiziksel, psikolojik, ve sosyal) bireysel benzerliklerden daha önemlidir; bu nedenle eğitim programlarının belirlenirken bireysel farklılıklara öncelik verilmelidir.	O	O	O	O	O
90. Okul, geçmişin basit ve sade erdemlerine, o eski günlerin güzelliğine geri dönüşü teşvik etmelidir.	O	O	O	O	O
91. Özgürce seçim yapma yeteneği, yapılan seçimlerin doğasından daha önemlidir.	O	O	O	O	O
92. En iyi yönetim serbest ve kendisine müdahalede bulunulmayan bir ekonomik girişimcilik sistemi üzerine kurulmuş olan temsiliyetçi demokrasidir.	O	O	O	O	O
93. Eğitim öğrencinin zihinsel potansiyelini geliştirmeye odaklanmalı; bu potansiyeli geliştirebilecek olan matematik ve dil gibi "üretken" konular üzerinde yoğunlaşmalıdır.	O	O	O	O	O
94. Bireysel benzerlikler (fiziksel, psikolojik, ve sosyal) bireysel farklılıklardan daha önemlidir; bu nedenle eğitim programları belirlenirken bireysel benzerliklere öncelik verilmelidir.	O	O	O	O	O
95. İnsan mutluluğunun tam olarak gerçekleşmesi, yeni ve insana daha çok önem veren toplumsal kurumların oluşmasını gerektirir.	O	O	O	O	O
96. Eğitim gruba uyumdan çok kişisel yaratıcılığa ağırlık vermelidir.	O	O	O	O	O
97. Birey en büyük mutluluğu devletin amaçlarına gönüllü hizmet etmekte bulur.	O	O	O	O	O
98. Okul programları hem öğrencilerin hem de toplumun değişen ihtiyaçlarına göre sürekli güncellenmelidir.	O	O	O	O	O
99. Okullar özgürleştirici belli bazı toplumsal reformların gerekliliği ve bu gerekliliğin yerine getirilmesi konusunda öğrencileri teşvik etmelidir.	O	O	O	O	O

Eğitim Görüşleri	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
100. Orta öğretim düzeyinde kompozisyon gibi genel zihinsel yeteneği ölçmeye yarayan yöntemler bilgi içeriğine ağırlık veren çoktan-seçmeli testler gibi değerlendirme yöntemlerinden daha iyidir.	O	O	O	O	O
101. Okullar içinde bulunduğumuz zamana ve geleceğe verilen aşırı önemi azaltarak daha çok geçmişin erdemleri ve başarıları üzerinde durmalıdır.	O	O	O	O	O
102. İnsan temelde içinde yaşadığı toplumun ölçü ve standartları tarafından şekillendirilen, kendi kültürünün bir ürünüdür.	O	O	O	O	O
103. Varolan okul sistemi yerini gönüllü ve kişinin kendisini yönlendirebildiği bir sistemine bırakmalıdır.	O	O	O	O	O
104. Okullar değişim ihtiyacına değil varolan kültürel değerlerin korunmasına önem vermelidir; sadece kurulu toplumsal düzenle bağdaşacak değişimleri teşvik etmelidir.	O	O	O	O	O

ÖĞRETMENLERİN EĞİTİM VE ÖĞRETİMDE BİLGİSAYARI KABULLERİ İLE İLGİLİ TUTUM VE GÖRÜŞLER

YÖNERGE: Aşağıdaki sorular sizlerin eğitim ve öğretimde bilgisayar kullanımına yönelik sahip olduğunuz tutum ve görüşlerinizi saptamak için hazırlanmıştır. Lütfen aşağıdaki soruların her birini cevaplayınız. Her soruyu cevaplarken sorunun sağında bulunan yuvarlaklardan yalnız birini işaretleyiniz. Aşağıdaki soruları "**kesinlikle katılıyorum**", "**katılıyorum**", "**kararsızım**", "**katılmıyorum**" veya "**kesinlikle katılmıyorum**" sütunlarında bulunan yuvarlakların içine (X) işareti koymak suretiyle cevaplayınız.

	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
Öğretim Teknolojileriyle İlgili Algılanan Yararlılık					
1. Bilgisayar eğitim ve öğretimin kalitesini arttırmaktadır.	O	O	O	O	O
2. Bilgisayar işimin üzerinde daha fazla kontrol sağlamama yol açar.	O	O	O	O	O
3. Bilgisayar görevlerimi daha çabuk yerine getirmemi sağlar.	O	O	O	O	O
4. Bilgisayar işimin kritik yönlerini destekler.	O	O	O	O	O
5. Bilgisayar üretimimi arttırır.	O	O	O	O	O
6. Bilgisayar iş performansımı arttırır.	O	O	O	O	O

	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
7. Bilgisayar normalden daha fazla iş yapmamı sağlıyor.	O	O	O	O	O
8. Bilgisayar işimde etkinliğimi arttırır.	O	O	O	O	O
9. Bilgisayar işimi kolaylaştırır .	O	O	O	O	O
10. Genelde, işimde bilgisayarı yararlı buluyorum.	O	O	O	O	O
Öğretim Teknolojileri ile İlgili Algılanan Kullanım Kolaylığı					
1. Bilgisayarı eğitim ve öğretimde kullanmak için hantal buluyorum.	O	O	O	O	O
2. Bilgisayarda programları kullanmayı öğrenmek kolaydır.	O	O	O	O	O
3. Bilgisayarla uğraşmak genelde bezdirici bir iştir.	O	O	O	O	O
4. Yapmak istediğim işlerde bilgisayarı kullanmayı daha kolay buluyorum.	O	O	O	O	O
5. Bilgisayarlar kendileri ile etkileşmek için esnek değildir.	O	O	O	O	O
6. Bilgisayarda uygulama programlarını nasıl kullanmam gerektiğini hatırlamam kolay olmaktadır.	O	O	O	O	O
7. Bilgisayarla etkileşime geçmek çok fazla zihinsel çaba gerektiriyor.	O	O	O	O	O
8. Bilgisayarla etkileşimim açık ve anlaşılırdır.	O	O	O	O	O
9. Usta biçimde bilgisayar kullanmak için çok fazla çaba gerekiyor.	O	O	O	O	O
10. Genelde, bilgisayarların kullanımı kolaydır	O	O	O	O	O
Öğretim Teknolojilerine Karşı Tutumlar					
1. Bilgisayarda yeni bir sorunla uğraşmak beni rahatsız eder.	O	O	O	O	O
2. Bilgisayarlarla ilgili konularda ileri düzeyde çalışmalar yapabilirim.	O	O	O	O	O
3. Bilgisayarla çalışacak bir yapıya sahip değilim.	O	O	O	O	O
4. Bilgisayar kullanımı konusunda kendime güvenirim.	O	O	O	O	O
5. Yeni bilgisayar uygulamalarını öğrenmek bana zor gelir.	O	O	O	O	O
6. Bilgisayarla çalışmak beni oldukça heyecanlandırır.	O	O	O	O	O
7. Diğerleri bilgisayarlar hakkında konuşurken kendimi kötü hissederim.	O	O	O	O	O
8. Bilgisayar laboratuarında kendimi rahat hissetmiyorum.	O	O	O	O	O
9. Bilgisayar kullanmak beni rahatsız ediyor.	O	O	O	O	O

	Kesinlikle Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
10. Bilgisayarla çalışırken kafam karışıyor.	O	O	O	O	O
11. Teknoloji benim daha fazla öğrenciye ulaşmamı sağlıyor.	O	O	O	O	O
12. Teknoloji değişik öğrenme metotlarına yönelimi kolaylaştırır.	O	O	O	O	O
13. Bilgisayarın etkin bir öğretim aracı olduğuna inanmıyorum.	O	O	O	O	O
14. Teknoloji yoluyla, öğrencilerden geri besleme sağlayabiliyorum.	O	O	O	O	O
15. Teknoloji ile, öğrencilerin ihtiyaçlarına daha iyi yönelebilirim.	O	O	O	O	O
16. Teknolojiyle çalışmayı seviyorum.	O	O	O	O	O
17. Bilgisayarı öğretimde kullanmayı kendi kendime öğrendim.	O	O	O	O	O
18. Okul dışı etkinliklerde de bilgisayar kullanıyorum.	O	O	O	O	O
19. Diğer alanlardaki teknolojik becerilerimi öğretime de uyguluyorum.	O	O	O	O	O
20. Sınıflarda bilgisayar kullanımı faydalı ve harcanan gayrete değerdir.	O	O	O	O	O
21. Bilgisayar becerileri öğrenciler için önemlidir.	O	O	O	O	O
22. Bilgisayar becerileri öğretmenler için önemlidir.	O	O	O	O	O
23. Bilgisayarın nasıl kullanıldığı benim için önemlidir.	O	O	O	O	O

Bilgisayar Kullanımı

1. Bilgisayarı eğitim ve öğretimle ilgili olarak ortalama ne kadar sıklıkta kullanıyorsunuz?

O Ayda bir kezden az O Ayda bir kez O Ayda bir kaç kezden fazla

O Haftada bir kaç kez O Günde yaklaşık bir kez O Günde bir kaç kez

2. Bilgisayarı eğitim ve öğretimde kullanırken günde ortalama ne kadar zaman harcıyorsunuz?

O Neredeyse hiç O ½ saatten az O ½ saat ile 1 saat arası

O 1 ile 2 saat arası O 2 ile 3 saat arası O 3 saatten fazla

3. Aşağıda belirtilen uygulamaları kullanım etkinliğinize göre sıralayınız. En etkili kullandığınız uygulamanın sol kısmındaki boşluğa '1', daha sonraki uygulamalara sırasıyla '2', '3', v.b. rakamlar yazarak etkin kullanımlarını belirleyiniz.

Örnek:

1	Masaüstü Yayıncılık

	Sunum / Gösterim (Demo) Yapmak		Telekomünikasyon
	Masaüstü Yayıncılık		Web Sayfası Oluşturma

	Alıştırma Uygulama		İnternette Araştırma
	Ölçme / Değerlendirme		Diğer Öğretisel Amaçlar
	Bire – Bir Öğretim		

4. Aşağıdaki yazılım çeşitlerinden hangisi ya da hangilerini eğitim ve öğretim amaçlı kullanmaktasınız?

O	Kelime İşlemci Programları (MS Word gibi)	O	Eğitim Yazılımları	O	İnternet ve Elektronik Posta
O	Tablo İşlemci Uygulamaları (MS Excel gibi)	O	Eğitsel Oyunlar	O	Programlama Dilleri (MS Visual Basic gibi)
O	Sunumlar ve Yayıncılık (MS Powerpoint gibi)	O	Diğer Öğretisel Amaçlar		
O	Veri Tabanı Uygulamaları (MS Access gibi)	O	Grafik Programları		

Ankete katkılarınızdan dolayı teşekkür ederim.