THE EFFECTS OF VIDEO-CASE BASED INSTRUCTION ON PRESERVICE TEACHERS' ACHIEVEMENT OF COURSE CONTENT

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EVRİM BARAN

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_____

Prof. Dr. Sencer AYATA

Director

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

_____

Prof. Dr. Ali YILDIRIM

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.

_____

Assoc. Prof. Dr. Ercan KİRAZ

Supervisor

Examining Committee Members

Assoc. Prof. Dr. Kürşat ÇAĞILTAY	(METU, CEIT)	_____
Assoc. Prof. Dr. Ercan KİRAZ	(METU, EDS)	_____
Assist. Prof. Dr. Hanife AKAR	(METU, EDS)	_____

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Evrim BARAN

ABSTRACT

THE EFFECTS OF VIDEO-CASE BASED INSTRUCTION ON PRESERVICE TEACHERS' ACHIEVEMENT OF COURSE CONTENT

BARAN, Evrim

M. Sc., Department of Educational Sciences

Supervisor: Assoc. Prof. Dr. Ercan KİRAZ

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It has been widely discussed that current practices of preservice teacher education are still far away from utilizing contemporary methods and strategies in its curriculum practices in Turkey. Preservice teachers are not provided enough classroom experiences connecting theory to teaching practice. As a result of this, many senior teachers need further guidance and supervision to transfer their knowledge into school environments. In order to address this failure in bridging what is learned and practiced in preservice teacher education to that of real class happenings, an experimental study was conducted with the application of an alternative method namely video-case based instruction.

This research study aimed to examine the differences between traditional lecture based instruction and video-case based instruction in terms of their effectiveness of presenting the content at “Introduction to Teaching Profession Course” delivered to the preservice teachers. Additionally, the study also aimed to evaluate the attitudes of students toward video-case based instruction to which they were exposed.

In this study, video-case based instruction and lecture based instruction were applied in three sessions of application and they were compared in terms of delivering the course content. Data were collected from two sections of EDS 119 Course during 2005-2006 fall semester by administrating pretests, posttests, questionnaires and interviews. Data analysis was carried out through both quantitative and qualitative analysis techniques. Results demonstrated that video-case based instruction demonstrated achievement of course content and support significant difference overall between video-case based instruction and lecture based instruction in content achievement. The participants of the study reported positive attitudes towards video-case based instruction both for its current application and future uses. The results revealed that using video-case based methods in preservice teacher education programs may be a viable alternative for allowing students connect real teaching practices with what they learn in their pedagogy courses.

Keywords: Preservice Teacher Education, Video-case Based Instruction, Lecture Based Instruction

ÖZ

VİDEO TEMELİ ÖĞRETİMİN ÖĞRETMEN ADAYLARININ DERS KONUSUNU KAVRAMALARINA ETKİSİ

BARAN, Evrim

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Türkiye'de hizmet-öncesi öğretmen eğitiminde kullanılan öğretim pratiklerinde, çağdaş yöntem ve stratejilerin yeterince kullanılamaması günümüz eğitim bilimleri literatüründe bir tartışma konusudur. Hizmet öncesi öğretmen eğitiminde uygulanan pek çok yöntem ve teknik geleneksel uygulamalara dayanmaktadır. Öğretmen adaylarına, derslerde öğrendikleri çeşitli teori ve yaklaşımları, öğretme uygulamalarıyla ilişkilendirmeleri için yeterli sınıf deneyimleri sunulmamaktadır. Bunun bir sonucu olarak, öğretmenliğe adım atan pek çok öğretmen adayı okulda öğrendikleri bilgileri gerçek yaşama aktarabilmek için danışmanlığa ve yönlendirmeye ihtiyaç duymaktadır. Öğretmen adaylarının, hizmet öncesi öğretmen

eğitimi sürecinde öğrendikleri bilgilerle, gerçek öğretim uygulamalarını ilişkilendirmede yaşadıkları sıkıntılar bu çalışmanın çıkış noktasını oluşturmaktadır. Yapılan bu deney çalışmasında, alternatif bir yaklaşım olan, ”video-durum temelli öğretim tekniği” denenmiştir.

Bu çalışma, EDS 119 (Öğretmenlik Mesleğine Giriş) dersinde uygulanan ve öğretmen adaylarına sunulan video-durum temelli öğretim yöntemi ve geleneksel düz anlatım öğretim yönteminin, ders içeriği sunumundaki etkililik farklarını incelemeyi amaçlamıştır. Çalışmanın bir diğer amacı da öğrencilerin video-durum temelli öğretim yöntemine karşı tutumlarını değerlendirmektir.

Çalışmada video-durum temelli öğretim yöntemi ve düz anlatım öğretim yöntemi 3 ayrı oturumda uygulanmış ve daha sonra ders içeriğini sunum etkililikleri karşılaştırılmıştır. Çalışma verileri, 2005-2006 güz döneminde, EDS 119 dersini alan, deney ve kontrol grubu olarak ayrılan 2 şubeden, öntestler, sontestler, anket ve görüşmeler yoluyla toplanmıştır. Veri analizi, hem nitel ve hem de nicel veri analizi yöntemleri kullanılarak gerçekleştirilmiştir. Çalışma sonuçları, video-durum temelli öğretim yönteminin düz anlatım öğretim yöntemine göre, ders içeriğini kavrama sürecinde daha etkili olduğunu göstermiştir. Ayrıca, katılımcılar video-durum temelli öğretim tekniğine karşı tutumlarının olumlu olduğunu belirtmişlerdir. Çalışma sonuçları, hizmet öncesi öğretmen eğitiminde, öğrencilerin, sınıf içi eğitimleriyle gerçek öğretim ortamlarının ilişkilendirme sürecinde, video-durum temelli öğretim yönteminin etkin ve alternatif bir yöntem olarak kullanılanileceğini göstermiştir.

Anahtar Kelimeler: Hizmet Öncesi Öğretmen Eğitimi, Video-durum Temelli Öğretim, Düz Anlatım Öğretim Yöntemi

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CHAPTER I

INTRODUCTION

This introductory chapter addresses the issues that underlie the background of the study. Next, the statement of the problem in the light of these background issues; purpose and significance of the study; and, lastly, definition of the terms that were used throughout the study are presented.

1.1. Background of the Study

The quality of educational environments is determined by many variables. Teachers' role can be considered as one of the most important variable which directly affects the quality of an educational setting. Teachers are the key connections between society's expectations and students' learning. Many reforms are being introduced to promote student learning. However, teachers are not provided opportunities to form the knowledge about the nature of learning and how to integrate theory into practice (OECD, 1998). Teacher education programs play a vital role in this respect on the determination of teachers' character and effectiveness of instruction in real classroom settings.

Academic outcomes of students improve when they are provided with meaningful learning environments in which they could explore authentic situations. Exploring real authentic situations make students connect theory with practice and construct their own knowledge (Bransford, Sherwood & Hasselbring, 1990; Hanley-Maxwell, Phelps, Braden, Warren, 1999). As students themselves, preservice teachers may benefit from a classroom environment situated in real life examples and authentic tasks in which they could stimulate their future teaching practices. Blending pedagogy with sound knowledge of content, preservice teachers could better understand student needs, nature of classroom environments and provide students with increased opportunities to learn (Stronge, 2002).

Researchers question the effectiveness of traditional teacher education programs and state that shortcomings in traditional programs hinder students from bridging the gap between university and school in an effective and coherent way (Schlagal, Trathen, & Blanton, 1996). It has been widely discussed that, preservice teachers should be provided experiences which focus on understanding dilemmas of teaching. Therefore preservice teacher education programs seek methods that include clinical and field components (Harrington, 1995). However, relying totally on these clinical experiences has been questioned by many scholars in fostering prospective teachers' knowledge (Harrington, 1995). Student teachers' field experiences are limited to a specific classroom setting. Observations of only a few teachers' teaching techniques about specific subject matters do not generally reflect other teachers' instructional methods and classroom settings. Instead of solely depending on clinical experiences, it is necessary to find ways of teaching in which theory and practice connection disseminated in whole curriculum practices, so that,

preservice teachers could build links between what they learn and what they will practice in their future profession.

In order to address this failure in bridging what is learned and practiced in preservice teacher education to that of real class happenings, some contemporary methods are proposed. According to Hatfield (1996), opportunities for experiencing situations should be provided to prospective student teachers. Case study methods are used in this respect to help students visualize the conditions of their future careers and to acquire a command of expert knowledge that can be transferred to future professional situations (Adler, 1996). Therefore, preservice teachers can understand and experience the nature of real classroom conditions and gather an expert knowledge prior their commencement of the profession. Research indicates that teacher education programs should more explore the benefits of case study that would benefit student learning. In this respect, authentic cases could be presented in the courses with the use of visual technologies to catalyze meaningful learning and be beneficial to preservice teachers (Bliss & Mazur, 1996). Since 1980s, video technology has been advocated in teacher education programs to link theory and practice but used infrequently in mainstream teacher education (McIntyre, Bryd & Foxx, 1996, p.182). While there is not a plethora of research in this area, “there does appear to be a trend toward finding video technology useful in providing additional and richer ‘classroom’ experiences and for enhancing prospective teachers’ reflective thinking” (McIntyre et al., 1996, p.182).

Accordingly, since there is a need for more empirical data about the use of video-case based method, this study aimed to investigate how video-case based instruction effects preservice teachers’ learning.

1.2. Statement of the Problem

All preservice teachers took Introduction to Teaching Profession Course (EDS 119) in their first semester of their undergraduate study at Middle East Technical University. This is the first course that preservice teachers begin to form up an image of a teacher. Therefore it is a very important stage in helping students built positive attitudes towards teaching profession and look to the profession from a real teacher's perspective.

Exemplary practices are presented with different mediums in different settings both with traditional and with contemporary methods and techniques. Video technologies are used to deliver exemplary practices in different formats. Presenting cases through videos, present teaching techniques and reflecting classroom environment effectively are main concerns of this study. In this study video-case based instruction will be analyzed in terms of its' effective reflections in a teaching environment.

Since video-case based models are currently being used to support preservice teacher education programs, it stands to reason that definite evidence regarding efficacy of this approach could provide guidance for the instructors who seek to implement this method. Such evidence can be obtained through systematic study of testing whether video-case models and traditional instructional models differ in terms of delivering the content. The study aims to examine the effects of video-case based instruction in terms of delivering the course content and how the relations between the content and videos effect the achievement of the course content. Despite many theoretical claims for the benefits of video cases in preservice teacher education, definite, empirical evidence regarding the effect of video cases on

preservice teacher achievement of course content is addressed by only a small number of studies. Some experimental studies are available that point out the efficacy of using video cases in preservice teacher education programs, however the different conditions of each study make it difficult to apply these results to the video-case based methods that could be used in “Introduction to Teaching Profession” course. Furthermore there is limited study that compared the effectiveness of traditional methods with video-case based method in delivering the course content. When research studies in Turkey are considered, limited number of quantitative and qualitative data were provided that evaluate the effect of video cases on student learning.

For these reasons and while there is lack of study in Turkey that resembles the researcher’s intentions, I believe that the findings of this study will reveal important information to the literature.

1.3. Purpose of the Study

This study has a general aim to contribute to the development of contemporary methods in preservice teacher education programs. More precisely, the purpose of the study is to examine the effect of video-case based models and whether there is a difference of student achievement of content knowledge between this alternative method and traditional lecture based instruction. Additionally, it is aimed to examine whether video-case based model provides students understanding of real teaching practices and thus makes the content more meaningful. The following research questions were taken as the blueprint for the study to achieve this purpose of examining the effectiveness of video-case based method.

1. Is there a significant difference between test scores of the students exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content?
2. What are the perceptions of students in experimental and control group toward the skills and characteristics of a good teacher?
3. What are the attitudes of students who are exposed to video-case based sessions towards the course?

The first research question above is the basis for the following hypothesis:

The Null Hypothesis: There is no significant difference between test scores of the student who are exposed to video-case based instruction and those who are exposed to traditional lecture based instruction with respect to achievement of the course content.

Research Hypothesis: There is a significant difference between test scores of the student who are exposed to video-case based instruction and those who are exposed to traditional lecture based instruction with respect to achievement of the course content.

1.4. Significance of the Study

Recently, it has been emphasized that the prospective teachers should be trained so that they can engage in the learning process actively, be prepared to respond on students' diverse needs and facilitate the learning environment. It has also been emphasized that in order to train such teachers, it is essential to provide learning environments enriched with authentic cases which they may face with in

their future profession. Although this need has been recognized both in the world and in Turkey, the research studies related to use of video as a delivering medium for authentic teaching situations at teacher education programs are scarce, especially in Turkey.

This study mainly aims to help those who work in teacher education field. Although there are some studies that attempt to utilize multimedia to deliver exemplary practices and enhance student teachers' awareness of the teaching and learning process, there aren't enough studies about the comparison of traditional lecture based courses and video based case scenarios supported contemporary methods. The findings of this study will contribute to the improvement of teacher education programs toward better application of knowledge into a real-life teaching situations in Turkey.

By examining the effectiveness of videos for delivering exemplary practices, the study will contribute to the ongoing discussion of developing good student teaching for productive student teaching experiences in real classroom environments, and prepare prospective teacher to the profession more appropriately. Moreover, presenting exemplary classroom cases to teachers as part of their in-service teacher education programs will be further consideration. Therefore, the findings of this study would contribute to the development of efficient materials and media in in-service teacher education. Finally, it is expected that this study will motivate researchers to conduct similar studies in the field of teacher education.

1.5. Definition of the Terms

Preservice Teacher: In this study, preservice teachers refer to students who attended EDS 119 course on their first year of undergraduate teacher education program at 2005-2006 fall semester.

Video-case Based Instruction: Video-case based instruction involves the use of teaching cases with video as a delivering medium. The instruction is held through presenting videos and films to preservice teachers and following discussions about the content of the course in connection with specific teaching cases in the films. This study used films about teachers and teaching that contain content relevant to course curricula as a means of establishing a common reference point around which preservice teachers could add to prior knowledge and discuss new knowledge within the classroom. The video cases formed the foundation of the intervention with the experimental group.

Lecture Based Instruction: Lecture based instruction is a traditional means of delivering courses in preservice teacher education programs. Lecturing, explaining, and demonstrating are the characteristics of instructional delivery format of traditional lecture based instruction that is structured and teacher directed (Rosenshine, 1985). In this type of instructional delivery, questions and discussions are directed by the teacher and student participations are encouraged (Weinstein, 1997). The control group in this study received traditional lecture based instruction centered on the course curriculum through three sessions of application. Teacher explanations included verbal examples of teaching situations.

In the following chapter, the review of the literature related to implication of authentic cases and video-based case models in teacher education and the relevant research studies are presented.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of the study is to examine the effect of video-case based model on the achievement of content knowledge by preservice teachers and whether there is a difference of content achievement between video-case based instruction and traditional lecture based instruction. Additionally, the study also intended to analyze the attitudes of preservice teachers toward video-case based instruction. This chapter reviews theoretical beliefs regarding modeled events, the effect of video-case based models on student achievement of the content, and the connection between these theoretical models and video-case methods. The following review of literature is divided into the following sections: (1) Current teacher Education Programs; (2) Social Learning Theory and Modeling; (3) Dual Coding Theory; (4) Observation of Teaching; (5) Constructivist Notion and Teacher Education; (6) Case-Based Teaching; (7) Video Case Teaching and Learning; (8) Research on Use of Video Cases in Preservice Teacher Education Programs; (10) Summary.

2.1. Current Teacher Education Programs

The concern on effective teacher education programs is not a new issue. It has its roots to the days of Plato and Socrates. “The question of effectiveness has been at the core of research on teaching and teacher education” (Schwartz, 2000). Since those old days, researchers questioned the meaning of being a good teacher and what kind of program could be designed to produce a good teacher.

Teaching is an intense profession which includes many dynamic variables interacting among each other. In other words “teacher education is a complex production with many voices” (Schwarzt, 2000). Researchers state that there are some major problems of current teacher education programs. Disconnection between the university and the school environment, the insufficiency of linking the theory to practice and ignorance of socialization can be counted as the problems in current teacher education as far as the context of courses and methodologies of teacher education programs are concerned (Schlagal et al., 1996). The disconnection between the university and the school environment and insufficiency of linking the theory to practice are the major concerns of this current study.

The disconnection between the university and the school environment

Traditional teacher education programs have been questioned by many researchers about their limited opportunities for providing effective connection between teacher training programs and real classroom environments. According to Schlagal et al. (1996), disconnection occurs in traditional student teaching. The isolation of students from the real classroom environment gives them little opportunity to practice in real class happenings and apply appropriate strategies. The

talk of supervisors and intern students during teaching practice periods generally focus on “immediate classroom practices and routines (Schlagal et al., 1996). Although, students practice teaching in their teaching practice courses, they generally face with classroom activities limited to that particular classroom Therefore those practice programs “seem insufficient to bridge the gulf between the islands of university training and public school teaching” (Schlagal et al., 1996). Disconnected from their peers, different classrooms and different teachers, student teachers have limited point of views towards teaching profession and thus need further guidance and supervision to transfer their knowledge into real school environments.

Linking theory to practice

By solely immersing in knowledge based issues without practical concerns, student teachers could not develop their critical thinking skills and reflection to apply in variety of classroom situations. It is impossible to present all the classroom activities in all grades and school districts to the student teachers during their university education. Decision making, judgment and critical analysis of different situations should be developed by student teachers by involving in preparation program that includes conditional elements of teaching. Without conditional knowledge, student teachers view their university learning “as static, as something that either works or does not, regardless of context” (Schlagal et al., 1996). After dropped into the classroom setting, student teachers try to implement the strategies that they learn in their methodology courses. However, since they lack the condition of applying their knowledge, they face with unsuccessful attempts that lead to the

frustration and thus the rejection of the technique. In order to eliminate this failure, student teachers should be immersed in context rich teacher education programs which provide critical thinking and reflection in many real or simulated practical experiences (Schlagal et al., 1996).

2.2. Social Learning Theory and Modeling

The social learning theory of Bandura emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Bandura (1977), states that learning would be onerous, if people solely rely on their own actions which inform them what to do. “Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (Bandura, 1977, p. 22). Modeling for educational purposes requires that the model form en example of the practice or activity which the learned is expected to perform. Jonassen (1999) emphasizes that even if the model is not an expert, a skilled demonstration of the desired activity will provide the learner necessary understanding to be able to perform the skill or concept themselves. Observational nature of learning is supported by a number of studies of Albert Bandura stating that learning is stimulated by observation of others.

Observational learning effect

Bandura’s Social Learning Theory proposed that learning was not limited to the performance situation but could also take place through observation of a modeled event (Bandura, 1971; Schunk, 2000). The idea of ‘observational learning

effect of Bandura proposes the idea that learning took place when a student watched an expert modeling a target activity. Bandura's learning theory asserts that learning via observations divided into four stages which, when successful, produce performance which matches the observed behavior (Hylton, 2000). Of these stages, stage 1 and 2, namely attentional and retentional processes are of primary concern of this study.

Attentional stage of learning requires gaining attention of learner. Distinctiveness and functional value of the modeled stimuli may affect the attentional level of the observer (Bandura, 1971). The distinctiveness of key features of a video-case model may be increased by linking video model to learning points, or important features that the students needed to retain (Mann & Decker, 1984). The functional value of a modeled display is a characteristic of its importance to the learner based upon his or her level of concern regarding events illustrated by the model. It is expected that video-case models in this study will have a great deal of functional value to the preservice teachers and will thus command greater attention than modeled displays of a different topic.

Retentional stage of learning concerns the ability of the student to retain the characteristics of the observed behavior even when they are not required to perform those behaviors. According to Bandura's theory, it is possible for students to retain what they have learned from modeled displays for performance at a later time. The participants in this study are on their first year of undergraduate study, therefore it is of great importance that they could employ what they learn when they practice teaching in the future.

2.3. Dual Coding Theory

Although arguments against dual coding theory exist, it remains the dominant theory that directly addresses the role of images in cognition and offers a theoretical framework for designing and developing instructional visuals. Paivio's (1986) dual coding theory and supporting research indicate that learning is deepest and lasts longest when both the verbal and imaginal systems are engaged. A more complete understanding of presentations is made possible through connection of pictorial and verbal representations of learning matter. In this respect, video models could activate imaginal structures and go beyond what static forms can offer. Dual coding theory specifically addresses and recommends the use of models to activate both verbal and nonverbal cognitive structures and effectively provides a link between successful formation of mental representation of a concept and the ability of a student to produce knowledge based upon the mental representation. The study of Lapadat and Martin (1994) indicates that university students who received instruction through illustrative and highly imaginal materials were better able to recall information presented with the illustrative materials up to three months after the initial presentation.

2.4. Observation of Teaching

Preservice teachers are generally asked to provide written observations, analyses and reflections about exemplary teachers in action during their classroom placements. Creating a rich observation of teaching requires an observer not only to identify the strategies and methods used but also look beneath the surface of principles and procedures underlying classroom teaching and learning (Peterson &

Comeaux, 1987). To look beneath the surface, preservice teachers first recall their experiences, prior knowledge and previously acquired conceptual knowledge such as learning theories, subject matter knowledge and pedagogical knowledge. Therefore, preservice teacher education programs look for ways to support this process through clinical and field components. However limitations to such experiences exist (Copeland, 1989; Goldman & Barron, 1990). Not all field experiences offer equal opportunities for shaping the knowledge structures that may be the goals of a teacher education program. Preservice teachers also have limited opportunity to observe variety of learning-teaching environments, since they are generally supposed to conduct their observation in a specific classroom. Finally, when preservice teachers observe real classes, they often misinterpret many of the signals or cues that experienced teachers use to make sense of the instructional environment (Friel & Carboni, 2000).

2.5. Constructivist Notion and Teacher Education

According to Rodriguez and Sjostrom (1998), learning environments should be designed considering multiple perspectives, democratic principles, sound pedagogy and critical thinking for student teachers. The way how teacher education courses educate prospective teachers influences the expectations and perspectives about teaching profession. Therefore teacher education programs should set their teaching methods according to the needs of nontraditional student teachers. As stated by researchers “preservice programs move beyond the transmission of techniques of teaching to the process of learning” (Campbel, 1996 cited in Rodriguez & Sjostrom, 1998). In order to develop the ethos of intellectuality about

teaching profession, student teachers should be immersed in active and meaningful learning. Active engagement, inquiry, problem solving activities and collaboration with others as characteristics of constructivist environments suits well with the nature of teaching profession.

Constructivism has gained a great deal of attention in recent years. It has made significant contribution to educational environments so far, and continues to impact educational practices in a wide spectrum. Constructivism is defined as an "epistemology, the philosophical explanation about the nature of knowledge" (Airasian & Walsh, 1997). Although there are many approaches under constructivist umbrella, constructivism is an approach in which "learning is an active process of constructing rather than acquiring knowledge, and instruction is a process of supporting that construction rather than communicating knowledge" (Duffy & Cunningham, 1996).

Many researchers believe that student teachers are not critical and reflective enough about the issues of knowledge and practice (Schlagal et al., 1996; Hatfield, 1996; Bliss & Mazur, 1996). This isolated construction of meaning is due to the separation of methods courses and student teachers practices. Nicaise and Barnes (1996) state that students report inabilities while transferring their knowledge into the classroom environments. In order to eliminate this gap, constructivists suggest that situations and social activities should shape the learning. By involving in authentic tasks in a social environment, preservice teachers could improve their decision making skills that could be applied in a variety of situations. As preservice teachers work on problems and situations simulating and representing authenticity,

they could understand the real classroom environments and consider multiple perspectives in social engagement with peers and other professionals.

2.6. Case-Based Teaching

Case study methods have been frequently used in education to provide the benefits of observational learning. They assist students visualize the conditions of their future careers and to acquire a glimpse expert knowledge that can be transferred to future professional situations (Adler, 1996). Recently, the use of case based teaching and learning has become popular as a means of bridging theory and practice "because they present opportunities for applying theoretical, conceptual, and pedagogical knowledge about teaching and learning to real-world classroom and explicating such knowledge embedded in practice" (Beck et al., 2002). Therefore students are introduced with authentic teaching situations and vicariously experience what they could encounter in their future profession. In this respect, case study methods could fill in the gap between theory thought in the classroom and the practice in the real world.

Cases are believed "a way to introduce preservice teacher to the contextual complexity of classrooms" (Adler, 1996, p. 33). Use of cases in preparing future educations is considered as beneficial. Most researchers cite the ability of cases to situate teacher learning (Hannah, 1995), to allow for discussion of a common experience (Merseth & Lacey, 1993) and to allow students to 'think like teachers' (Kagan, 1993). Recent research indicates that teacher education programs should more fully explore the possible benefits of case study use where it would directly benefit students. Those researchers indicate there is a need for more empirical data

about the use of cases in education. (Copeland & Decker, 1996; Sykes & Bird, 1992).

Cases allow prospective teachers to vicariously experience the realities of classroom life from a removed perspective, enabling them (a) to detect specific issues and problems within a complex authentic context (e.g., Harrington, 1996), (b) to foster critical analysis of such issues and problems (e.g., Lundeberg & Fawver, 1993; Shulman, 1992; Wasserman, 1994 as cited in Beck et al., 2002), (c) to experience teaching-learning problems without risk, and (d) to promote habits of reflection about teaching and learning (e.g., Kleinfeld, 1992; Rickart, 1991 as cited in Beck et al., 2002). Research conducted on case-based instruction in teacher education shows that preservice teachers not only prefer learning from cases, as opposed to more traditional lectures (Lundeberg, Matthews, & Sheurman, 1996; Van Zoest, 1995 as cited in Beck et al., 2002) but they also significantly increase their ability to construct theoretical and practical knowledge from cases over time (Barnett, 1991). Beck et al. (2002) indicate that cases improve teachers' abilities to:

- identify instructional problems in cases,
- consider alternative perspectives,
- base their proposed solutions on multiple sources of evidence,
- consider consequences of their solutions and identify issues,
- generate final solutions and conclusions from video cases.

2.7. Video Case Teaching and Learning

Recently, using video cases in teacher education programs has gained popularity (Richardson & Kile, 1999). Videos have the potential of serving as more

effective teaching-learning tools than verbal cases. Beck et al. (2002) determines that the video format promotes learning by supporting a viewer's cognitive processing and development of detailed mental representations in several ways:

1. Authenticity. The spatial and moving quality of video provides more realistic and richer scenes, contributing the authenticity of what is captured (CTGV, 1990).
2. Dual Coding: So much detailed can be shown in video cases, therefore they can better display the ambiguity and complexity of classroom events, because so much detail can be shown adding to their apparent authenticity.
3. Interpretation. Events and contexts in the videos are usually encoded easily into the memory because they are believable to the viewer and can therefore be readily connected to prior knowledge in existing mental representations (Baddeley, 1990, as cited in Beck et al., 2002).

Referencing dual coding theory of Paivio (1971), it could be referred that videos' audiovisual format allows the viewer to encode the events portrayed in visual and verbal codes. According to Clark and Paivio (1991), dual encoding promotes understanding over and above verbal encoding alone. Together with the aforementioned facilities, video cases may promote preservice teachers' construction of meaning about teaching and learning, since they have the potential of enhancing cognitive processing what is portrayed.

2.8. Research on Use of Video Cases

A study conducted by Hylton (2000) compared the effects of video teaching of classroom management strategies with the more traditional approach. Hylton selected commercially prepared videos which focused on various topics of classroom management. The study concerned the ability of video representations of classroom management strategies to effect changes in preservice teachers' classroom management concept knowledge and understanding of declarative, procedural, and attitudinal domains. The results of the study showed that, video modeling positively impacted students' procedural knowledge of selected classroom management strategies (Hylton, 2000). The researcher continued that the isolation of the impact of videos to an increase in declarative knowledge was difficult, due in part to measurement and design problems with the selected measurement instrument (Hylton, 2000).

Hult and Edents (2003) addresses the need for further evidence with a study designed to measure student skills in observing teachers in a series of online video case studies. They found that the experiences of watching illustrative video cases of technology integration did positively affect the ability of teacher education students to describe and evaluate teaching situations which employed technology and were able to provide more complete descriptions of effective technology integration techniques than students who had not participated in the video-case observation (Hult & Edens, 2003).

The study of Friel and Carboni (2000) aimed to explore the, impact of using video-based pedagogy on preservice teachers' cognitions about teaching mathematics. It is pointed that it was probable that other components of the course

might have also considerable impact, since they constituted a part of the course work. They conclude that despite these limitations, video-based pedagogy have a potential to provide alternative experiences that may stimulate reflection and reconstruction of beliefs on the part of the preservice teachers, moving from a didactic to a more student-centered pedagogy (Friel & Carboni, 2000).

In order to focus on linking the theory with the practice Daniel (1996) conducted a research. According to the author, the results of this experimental study indicated that constructivist orientation could be applied through using multimedia technologies in order to present real life classroom situations and problems to student teachers (Daniel, 1996).

Bliss and Mazur (1996) conducted a research in order to examine potential of combining teaching cases with telecommunications technology. According to the authors "teacher education faculty expect students to take considerable risks but usually do not provide support for such risk taking" (Bliss & Mazur, 1996). Being involved in case discussion environment between the mentors, student teacher and faculty staff; participants stated that they had a sound understanding of teaching profession and enriched their critical thinking and decision making skills.

Beck et al. (2002) used video case pedagogy with a different perspective on the construction of video-cases by preservice teachers. In their study, they intended to determine the effectiveness of preservice teachers' use of video case construction as an observation tool, that is, their ability to identify, interpret, or analyze manifestations of effective teaching in subsequent observations of investigator-provided video clips. The findings of the study supported the efficacy of using video

case construction by preservice teachers as an observation tool in teacher education programs.

Another study of Bucalos (2003) examined the effects of video-based anchored instruction with problem based learning on problem solving, and higher-order thinking skills of preservice teachers. The findings of the study revealed that there was no significant difference in knowledge achievement between anchored instruction and traditional instruction.

2.9. Summary

This study will capitalize on the current understanding of situated and observational learning and its benefits for teacher education programs as well as the theorized educational benefits of video cases. A review of the literature about video case use in teacher education programs point to a positive trend associated with the use of these methods within educational settings. Studies focused on student attitude regarding case methods and video cases, in particular, show at least a positive reception of their method of study by the target audiences, and those studies which have attempted to show a positive outcome with regard to knowledge base have, in fact, done so. It appears that there is potential for video-based pedagogy to provide alternative experiences that may stimulate reflection and reconstruction to beliefs on the part of the preservice teachers, moving from didactic to a more student-centered pedagogy. The use of video cases provides opportunities preservice teachers to connect university course work explicitly with actual classroom practices and provides some unique opportunities to consider ways to interact with and study students.

On the other hand, the limited number of studies on the use of video case based instruction points to a continued need for investigation. The following chapter describes the method of the study designed to increase the body of knowledge related to the achievement of preservice teachers in preservice teacher education program when video cases are employed as part of the course curriculum.

CHAPTER III

METHODS AND PROCEDURE

Throughout this chapter the detailed design of the study is covered. The methodological foundation of the study, namely the research problem and research questions, research hypothesis, the overall design of the study, subjects of the study, data collection instruments, treatment, data collection procedures, data analysis procedures and limitations are explained in a comprehensive manner.

3.1. Research Problem and Research Questions

This study aimed to examine the effect of video-case based models and whether there is a difference of student achievement of content knowledge between this alternative method and traditional lecture based instruction. Additionally it is aimed to examine whether video-case based model provides students' understanding of real teaching practices and thus make the content more meaningful. In other words, it is intended to examine whether video-case based instruction presented more meaningful content to students and thus resulted in better understanding of real teaching practices.

The following research questions were taken as the blueprint for the study to achieve the purpose. Through student questionnaire, pretests, posttests and interviews with the students, these research questions were studied:

1. Is there a significant difference between test scores of the students exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content?
2. What are the perceptions of students in experimental and control group toward the skills and characteristics of a good teacher?
3. What are the attitudes of students who are exposed to video-case based sessions towards the course?

3.2 Research Hypothesis

Research question 1 addressed the effects of video-case based instruction (experimental group) compared to traditional lecture-based instruction (comparison group) on the achievement of content knowledge of preservice teachers as measured by pretest and posttest scores. The research question above is the basis for the following hypothesis:

The Null Hypothesis: There is no significant difference between test scores of the students who were exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content.

Research Hypothesis: There is a significant difference between test scores of the students who were exposed to video-case based instruction and those who were

exposed to traditional lecture based instruction with respect to achievement of the course content.

3.3 Overall Design of the Study

A quasi-experimental research design was used to understand whether lecture based instruction and video-case based instruction differ through delivering the content. A quasi-experimental design is one that looks a bit like an experimental design but lacks the key ingredient random assignment (Fraenkel & Wallen, 2003). This study also aimed at evaluating the attitudes and perceptions of the students in the experimental group toward video-case based instruction that they were exposed. The independent variable, also referred as treatment variables, were two different instructional methods namely, video-case based instruction and lecture based instruction. The dependent variable was the achievements of students of the course content.

The Static-Group Pretest-Posttest Design was selected as the research design of the study. Fraenkel and Wallen (2003) showed the diagram for the design as follows:

O	X_1	*O*
O	X_2	*O*

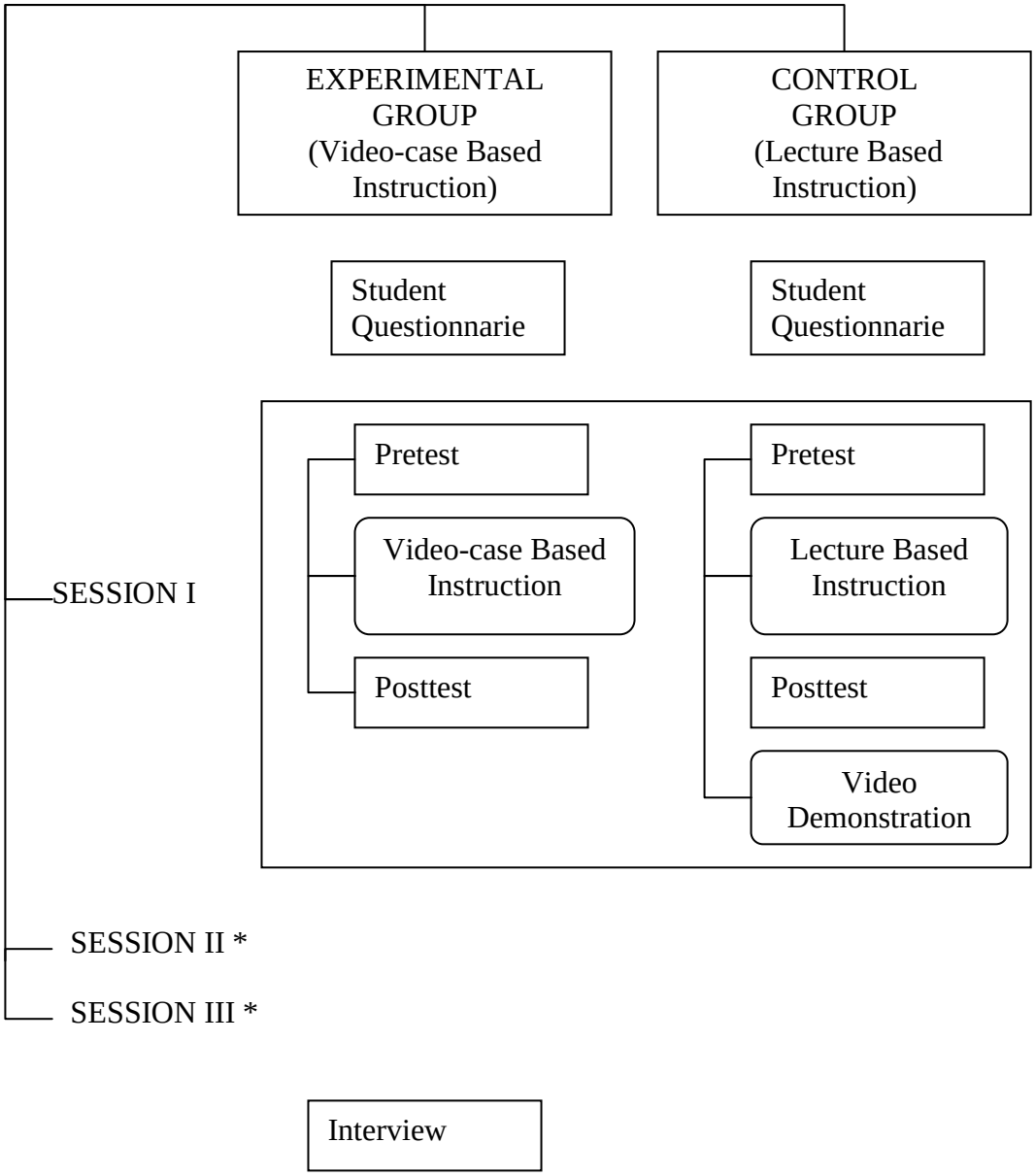
O: Pretest-Posttest
X_1 :Experimental Group
X_2 :Comparison Group

Figure 3.1. Diagram for the Research Design (by Fraenkel & Wallen, 2003)

The students in the experimental (N=32) group treated with video-case based instruction and the students in control group (N_26) were treated with lecture based

instruction in three sessions throughout the semester. The students in the control group were also shown the videos after the posttest of lecture based treatment in each session in order to eliminate their deprivation of watching those films and videos.

Because random assignment of treatment groups to students was not possible, pretests and student questionnaire were used to determine the equivalence of groups. The pretests also aimed at measuring students' prior knowledge before the treatments. The targeted questions from pretests selected and formed posttests which were administrated after each treatment. At the end of the semester, focus group interviews were conducted with the students from the experimental group. Pretests and posttests were developed by the researcher by selecting questions from instructor database of course questions. Student questionnaire and interview schedule were developed by the researcher for data collection and were applied through the study. The research design of the study and the application method of the instruments are demonstrated in the Figure 3.2.



** Session II and III conducted with the same flow as Session I*

Figure 3.2. Flowchart of the Design of the Study

3.4. Subjects of the Study

The preservice teachers (N = 58) on their first year of undergraduate education who were enrolled in Introduction to Teaching Profession Course (EDS 119) at Middle East Technical University were main subjects of the study. Above all sections taking the course, the students of course sections 3 and 4 were chosen as the subjects of the study. Students of sections 3 and 4 were conveniently available for the study; because same instructor was delivering the course to these two sections. All of the students who participated in this study were freshman at the department of Foreign Language Education (FLE). Introduction to Teaching Profession Course is the first course that they took as part of their pedagogy education at the University.

The gender distributions and OSS (University Entrance Exam) means are about the same both in experimental and control group. Majority of the students were graduated from Anatolian Teacher High Schools around Turkey. The characteristics of the students in experimental and control groups are summarized in Table 3.1.

Table 3.1.
Subjects Information for Experimental and Comparison Groups

Information	Experimental Section 4	Control Section 3
Number of Participants	32	26
Gender	10 male 22 female	4 male 22 female
Age Range	17-20	17-24
OSS[1] Mean	391,77	391,85
High School	29 ATHS[2]	25 ATHS
	3 HS[3]	1 HS[3]

Note: [1] OSS (National University Entrance Examination)

[2] ATHS: Anatolian Teacher High School

[3] HS: High School

3.5 Data Collection Instruments

Throughout the study, the data were gathered administrating student questionnaire, pretests, posttests [*] and interviews. Each of the instruments is explained in detail below.

3.5.1. Student Questionnaire

Student questionnaire was conducted to gather information about students participating in this study. The questionnaire was prepared by the researcher and administrated to students at the very beginning of the semester, also to determine the equivalence of two groups. The questionnaire questions gathered the information from students under these headings:

[*] The pretests and posttests were not attached to the appendix section because they are in use for the examinations of this course. Anyone who wants to attain those questions can contact with the researcher of this study.

1. Demographic information
2. Educational background

The questions in the questionnaire were analyzed by the instructor of the course and the researcher.

3.5.2. Pretests

Pretests were administered to the students in experimental and control group. Pretests were designed by the instructor and researcher to measure students' prior knowledge about the contents of the each session before the treatments. The questions of pretests were selected from the instructors' test data bank as a source.

Questions of the 40-item (40 multiple choice) pretest 1 covered the whole content of the course, including the questions of targeted content in the first two sessions. Six of the pretest questions (Posttest 1) covered the content of session 1, titled "Becoming a Teacher". Ten of the pretest questions (Posttest 2) covered the content of session 2, titled "Philosophical Foundation of Education".

The pretest of the third session was prepared and conducted separately the week before session 3. Questions of the 5-item pretest (2 short answer, 1 multiple choice, 2 matching) covered the content from the session titled "Constructivism and Its Applications).

Students were not informed about the results of the pretests to avoid test-retest confound.

3.5.3. Posttests

Posttests were administered to the students in experimental and control group after each treatment. Posttests were designed by the instructor and researcher to measure students' knowledge about the contents of each session after the treatments. They aimed at measuring students learning and achievement.

Targeted questions of the posttest 1 and posttest 2 were selected from the pretest which was administrated at the very beginning of the course. Posttest 1 was conducted after the treatment of session 1 and posttest 2 was conducted after the treatment of session 2. The posttest of the third session was prepared and conducted separately. Posttest 3 was conducted after the treatment of session 3. Additionally, posttest 1 included an open-ended question asking the characteristics of a good teacher. This question was asked to students after the treatment of session 1.

3.5.4. Interview Schedule

The interview schedule aimed at collecting data about students' reactions, perceptions, experiences, feelings and insights towards video-case based instruction conducted in this study. Opinion or values and feelings questions were included in the interview schedule to ask students in focus group interviews. It was designed as a semi-structured interview to bring follow up questions and answers that could arise during the interview. The interview schedule was designed by the researcher and a researcher, who has been pursuing PhD, checked the questions and probes in terms of their clarity. The questions which were found to be unclear, multiple or yes-no type were revised. The interview schedule was used in two focus group interviews with the students in experimental group. Each group contained 5 students.

3.6. Treatment

This study was conducted over 6 weeks during the 2005-2006-fall semester at the Middle East Technical University. 56 students on their first year of undergraduate education in two sections of the course EDS 119 (Introduction to Teaching Profession) given by the same teacher were enrolled in the study.

In this study, there were two groups; experimental and control group. Throughout the semester, in three sessions, the groups experienced different instructional methods. The students in the control group were treated with lecture based instruction and the students in the experimental group were treated with video-case based instruction. Lecture based instruction was the traditional method that the instructor utilized in the previous semesters. Same course syllabus with the same course requirements were exposed to both experimental and control group during six weeks. During the treatment, for the purpose of this study, experimental group received video-case based instruction and control group received lecture based instruction. The treatments in both groups consisted of three sessions targeting three different topics in the classroom syllables.

3.6.1. Course Context

EDS 119-Introduction to Teaching Profession Course was taken by the students of the Faculty of Education at the first semester of their undergraduate education as part of their pedagogy courses. The objectives of the course were stated in the course syllabus as follows:

Students attending this course are expected to:

1. be familiar with the general administrative and organizational structure of the Turkish education system and schools,
2. comprehend basic/fundamental concepts of education
3. comprehend philosophical foundations of education
4. acquire theories of education and evaluate the differences among them
5. comprehend basic roles and responsibilities of teachers
6. explore and analyze the basic issues and problems of education and the school system
7. develop understanding and interest in the teaching profession

The sessions in this study focused on the objectives 3, 4, 5 and 7 and covered the content which aimed at reaching the aforementioned objectives. Three topics were selected from the syllabus to form the content of each session. These are stated in the Table 3.2.

Table 3.2.
Sessions and Topics in the Study

Session	Topic
Session 1	Becoming a Teacher ▪ Why people choose teaching ▪ What it means to be a teacher ▪ Why people leave teaching ▪ Characteristics and skills of good teachers ▪ Teaching as a life-long learning process ▪ Code of ethics in teaching
Session 2	Philosophical Thought a. Why philosophy of education? b. Language of philosophy (metaphysics, axiology, epistemology, and logic) c. How does philosophy affect education? Four philosophies of education and practical implications for the classroom teacher. a. Perrennialism b. Progressivism c. Essentialism d. Existentialism
Session 3	Psychological Foundations of Education ▪ Constructivism and Learning Centers

3.6.2. Lecture Based Instruction

In the previous semesters, only lecture based instruction was used to deliver the content. In this study, the students in the control group were exposed with the same instructional method during the semester. At every class session, the course content was first introduced by the instructor. Approximately one third of each week's topic was devoted to the introduction of the topic by the instructor. Later on, a semi-structured discussion was formed in the classroom to reflect students' understanding, insights and ideas about the topic. Group work followed the discussions.

On the second week of the session, after taking the posttest about the content, the students watched the video which was used in the experimental group. Therefore, the students in control group also had an opportunity to watch video about the topic of that session.

3.6.3. Video-case Based Instruction

During three months, students in the experimental group were treated with video-case based instruction. Video anchors, used in the sessions, were selected from professionally produced films and other media that contained content relevant to the session topics. On the first week of every session, videos were demonstrated to the students. On the second week of the sessions, the topic was explained to students with case examples from the videos. After a short verbal introduction to the unit, students were asked to respond verbally to a question regarding what was seen in the video that illustrated the unit of the topic. After the elicitation of students responses, the instructor helped students to make connections between the unit of

the topic and specific elements in the video. A semi-structured discussion was formed during 3 class hours.

The session topics, anchored videos and their subjects are summarized in Table 3.3.

Table 3.3.
Sessions and Videos

Session	Topic	Anchored Video	Subject
Session 1	Becoming a Teacher	Stand and Deliver (1987)	1987 produced film about how America's famous Mathematics teacher, Jamie Escalante, motivated his students' efforts to master the calculus and make them enjoy mathematics.
Session 2	Philosophical Thought	Dead Poets Society (1989)	1989 produced film about how a teacher introduces progressive non-conventional approach to a school environment, and encourages students' critical thinking, individual expression and self fulfillment through education.

Table 3.3.—Continued.

Session 3	Psychological Foundations of Education ▪ Constructivism	"Another Brick in the Wall Video Clip" Pink Floyd Columbia Records	A Video Clip of the song "Another Brick in the Wall" performed by Pink Floyd. It is about the cynicism caused by education.
		"Learning Centers"	A Documentary about "learning Centers" approach applied in a school.

3.7. Data Collection Procedures

The data collection process has begun in September 2005 and lasted till December 2005. As mentioned before, the data were collected from the two sections who were taking the course EDS 119 (Introduction to Teacher Profession) in 2005/2006 fall semester. Section III was selected as experimental group and Section IV was selected as control group for this study. Section III took 3 class hours at every Tuesday and Section IV took 3 class hours at every Wednesday during the semester.

During the semester, student questionnaire, pretests, posttests and interviews were conducted by the researcher in order to collect the data.

On the second week of the semester, student questionnaire and pretest 1 were administrated to the students both in experimental and control group.

During 3 months period, students in the experimental and control group were treated with three different instructional sessions. Every session lasted in two weeks. Students in the experimental group were exposed to video demonstration on the first

week and discussion about videos on the second week of the sessions. Posttests, targeting the content of that session, were administrated at the end of the sessions. Students in the control group were exposed to traditional lecture based instruction on the first week of the sessions. Posttests, targeting the content of that session, were administrated at the end of this week. In order to eliminate inequity of delivering course material into both sections, students in the control group were also demonstrated the same videos on the second week of every session.

After the completion of all of the session treatments, on the 11th week of the semester, interviews were conducted with the students in the experimental group. Two focus group interviews were conducted with the students who were willing to participate in the interview sessions. The groups consisted of 5 students who were seated together during the interview. The interviews lasted 40 minutes. The researcher audio recorded the interviews and took short notes in order to record all the data. The student permissions were taken to record the data at the very beginning of each interview session.

The whole data collection procedure was summarized in Table 3.4.

Table 3.4.
Data Collection Procedure of the Study

Sessions	Week	Date	Experimental Group	Control Group
	2	27.09.05 28.09.04	Questionnaire Pretest 1	Questionnaire Pretest 1
Session 1 "Becoming a Teacher"	3	04.10.05 05.10.05	Video-case Based Treatment	Lecture Based Treatment Posttest 1
	4	11.10.05 12.10.05	Discussion Posttest 1	Video Demonstration
Session 2 "Philosophical Foundations of Education"	5	18.10.05 19.10.05	Video-case Based Treatment	Lecture Based Treatment Posttest 2
	6	25.10.05 26.10.05	Discussion Posttest 2	Video Demonstration
	8	08.11.05 09.11.05	Pretest 2	Pretest 2
Session 3 "Constructivism and It's Applications"	9	15.11.05 16.11.05	Video-case Based Treatment	Lecture Based Treatment Posttest 3
	10	22.11.05 23.11.05	Discussion Posttest 3	Video Demonstration
	12	06.12.05	Interview	

3.8. Data Analyzing Procedures

The collected data were analyzed through both quantitative and qualitative techniques. Quantitative data involving pretests, posttests and student questionnaire were analyzed through using descriptive statistics. The test scores were analyzed through independent sample t-test and analysis of variance (ANOVA) with repeated measures. Independent sample t-test statistics was used to determine the difference between pretest mean scores of the students in experimental and control group with respect to understanding of the content of each session. Analysis of variance was used to determine between-subjects factor and within-subjects factor. Data were analyzed for both within and between group patterns.

Two graders participated in the evaluation of pretests and posttests scores to provide reliability in scoring. A colleague, pursuing a PhD and experienced in research, accompanied the researcher in the evaluation process of pretests and posttests. Researchers scored the tests of both experimental and comparison group independently to ensure the accuracy of results and experimental integrity. Graders were provided with rubrics which were designed to increase the consistency of graders responses.

Qualitative data gathered from interviews and open-ended question. For analyzing the interviews following steps were fallowed:

- Transcription of the data
- Identification of meaningful data units and categories
- Organization of categories
- Interpreting the data under formed categories

The results of open-ended question of posttest 1 were analyzed through qualitative techniques. For analyzing the responses to the open-ended question in posttest 1, these steps were followed:

- The themes were listed and grouped in number of categories that were underlined in the discussion hour.
- The responses of students to open ended question were collected and than categorized
- The categories and the themes were related with respect to the frequency of responses

3.8. Validity Issues

Possible treats to internal validity were controlled with some methods. Students were delivered a questionnaire at the very beginning of the semester in order to understand students demographic and educational background. The data gathered from the questionnaire confirms that subjects from both control and experimental group slightly differ in age, gender, socioeconomic background, achievements of National University Exam scores and the high schools they graduated. During the treatment processes, some students did not participate to either pretests or posttests. Their scores were eliminated in order to get accurate analysis of test scores. Time was set between pretest and posttest scores to reduce testing effect. Students also were not informed about the results of the pretests. In order to reduce data collector bias, a colleague reevaluated the scores of the tests. Test scores were analyzed by the researcher and a colleague based on a schedule for

data collection in order to eliminate instrument decay. To enhance the credibility and trustworthiness of the qualitative data analysis peer examination was used.

3.9. Assumptions

1. There was no interaction between the students in the control and experimental group that could affect the results of the study.
2. The teacher was not biased during the treatment.
3. Students in both groups answered the questions of instruments seriously and accurately.
4. The tests were administered under standard conditions.

3.10. Delimitations of the Study

This study is delimited to the teacher education program at the Middle East Technical University, Ankara, Turkey. The study is delimited to the two sections of Foreign Language Department students who took Introduction to Teaching Profession Course on their first semester of undergraduate education.

3.11. Limitations

The limitations of the study are described below:

1. The study is limited to two sections of Introduction to Teaching Profession Course at the Middle East Technical University. The results of the study therefore could be generalized only to this specific population described.

2. During the implementation period of video cases, the problems with technology could have caused the inattention of students to the course.
3. Although pretest and posttest questions were appropriate for the measurement of student achievement of the subject, the generalization of the results are limited for anyone who does not intent to measure the same objectives.
4. The sessions in the study were delivered by the instructor of the course and the researcher. Therefore the characteristics of instructor might have affected the results of the study.

Despite aforementioned limitations, there is a tendency for using video-case based instruction in educational courses. This study may contribute to the body of knowledge in the field. Furthermore more empirical data should be gathered about the use of video cases in delivering educational courses.

In the following chapter the results of study gathered through the analysis of quantitative and qualitative data are presented in detail.

CHAPTER IV

RESULTS

This chapter presents the results of the study considering the research questions stated in the previous chapters. The purpose of the study was to examine the effect of video-case based models on student learning and whether there is a difference in student achievement of content knowledge between video-case based instruction and traditional lecture based instruction. Moreover, it is aimed to examine the perceptions and attitudes of students toward the content of the course and video-case based instruction.

The results of the study will be addressed in relation to the research questions below.

1. Is there a significant difference between test scores of the student who were exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content?
2. What are the perceptions of students in experimental and control group toward the skills and characteristics of a good teacher?

3. What are the attitudes of students who are exposed to video-case based sessions towards the course?

4.1. The Results of the Hypothesis of the Research Question 1

Research Question 1: Is there a significant difference between test scores of the students who were exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content?

Research question 1 addressed the effects of video-case based instruction (experimental group) compared to traditional lecture based instruction (comparison group) on the achievement of content knowledge of preservice teachers as measured by pretest and posttest scores. The research question above is the basis for the following hypothesis:

The Null Hypothesis: There is no significant difference between test scores of the students who were exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content.

Research Hypothesis: There is a significant difference between test scores of the student who were exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content.

The hypothesis is tested at a significant level of 0.05. Analysis of Variance (ANOVA) model and t-test were used in order to test the hypotheses. Statistical

analyses were carried out by using Statistical Package for Social Sciences for Personal Computers, (SPSS).

4.1.1. The Results of Pretests

A regular school exam was used as a pretest to determine whether there would be a significant difference between the groups before the treatments. The results of the t-test are presented in Table 4.1.

Table 4.1
The Results of the t-test

Variables	Lecture Based Instruction (N=26)		Video-case Based Instruction (N=32)		
	M	SD	M	SD	p-value
Pre-test 1	2.23	.95	2.28	.92	.839
Pre-test 2	2.81	1.79	2.84	1.35	.931
Pre-test 3	39.67	20.06	38.24	8.61	.843

As seen in the table there is no significant difference between the students at control and experimental groups in terms of scores on pretest1, pretest2 and pretest3 before the treatment ($p > 0.05$)

4.1.2. The results of Pretest1 and Posttest1

Descriptive statistics for pretest 1 and posttest 1 scores for both experimental (N=32) and comparison (N=26) groups, are summarized in Table 4.2.

Table 4.2.
Pretest 1 and Posttest 1 Scores for Lecture Based Instruction and Video-case Based Instruction Groups

	Pretest 1		Posttest 1	
	M	SD	M	SD
Lecture Based (N=26)	2.23	.95	3.50	.91
Video-case Based Instruction (N=32)	2.28	.92	4.34	.55

A 2 x 2 (Group x Test) ANOVA with repeated measures was conducted with the factor being group number and the dependant variables being pretest1 and posttest 1. The results revealed significant main effect for test scores, F (1, 56) = 115.82, $p < .05$. The interaction between group and tests were statistically significance F (1, 56) = 6.57, $p < .05$. The main effect for groups were also statistically significance F (1, 56) = 7.97, $p < .05$. In the light of these, it is deduced that there is a significant difference between the test scores students who received video based instruction and who received lecture based instruction with traditional method with respect to the achievement of content knowledge in the favor of video-case based instruction at the first session. The score results of Repeated Measures ANOVA for Pretest 1 and Posttest 1 are presented in Table 4.3.

Table 4.3
Scores Repeated Measures ANOVA for Pretest I and Posttest 1

Source of Variation	*SS*	*df*	*MS*	*F*	*Sig of F*
	Between Subjects				
Groups	5.74	1	1094.98	7.97	.007*
Error Between	40.31	56	.72		
	Within Subjects				
Tests	79.62	1	79.62	115.82	.000*
Tests by Groups	4.51	1	4.51	6.57	.013*
Error Within	38.50	56	.68		

* Denotes significant difference at the 0.05 level of significance.

Dependent Variable: Test Score

4.1.3. The results of Pretest 2 and Posttest 2

Descriptive statistics for pretest 2 and posttest 2 scores for both experimental (N=35) and comparison (N=26) groups, are summarized in Table 4.4.

Table 4.4
Pretest 2 and Posttest 2 Scores for Lecture Based Instruction and Video-case Based Instruction Groups

	Pre-test II		Post-test II	
	M	SD	M	SD
Lecture Based (N=26)	2.81	1.79	7.00	1.23
Video-case Based Instruction (N=35)	2.84	1.35	8.31	.12

A 2 x 2 (Group x Test) ANOVA with repeated measures on the second factor was completed on test mean scores. The results revealed significant main effect for test scores, F (1, 56) = 398.80, $p < .05$. The main effect for groups by tests interaction were statistically significance F (1, 56) = 6.96, $p < .05$. The main effect for groups was also statistically significance F (1, 56) = 6.13, $p < .05$. In the light of these, it is deduced that there is a significant difference between the test scores students who received video based instruction and who received lecture based instruction with traditional method with respect to the achievement of content knowledge in the favor of video-case based instruction at the second session. The score results of Repeated Measures ANOVA for Pretest 2 and Posttest 2 are presented in Table 4.5.

Table 4.5
Scores Repeated Measures ANOVA for Pretest 2 and Posttest 2

Source of Variation	*SS*	*df*	*MS*	*F*	*Sig of F*
Between Subjects					
Groups	13.04	1	13.04	6.13	.016*
Error Between	119.13	56	2.13		
Within Subjects					
Tests	669.45	1	669.45	398.80	.000*
Tests by Groups	11.67	1	11.67	6.96	.011*
Error Within	94.00	56	1.68		

* Denotes significant difference at the 0.05 level of significance.

Dependent Variable: Test Score

4.1.4. The results of Pretest 3 and Posttest 3

Descriptive statistics for pretest 3 and posttest 3 scores for both experimental (N=16) and comparison (N=15) groups, are summarized in Table 4.6.

Table 4.6.
Pretest 3 and Posttest 3 Scores for Lecture Based Instruction and Video-case Based Instruction Groups

	Pre-test II		Post-test II	
	M	SD	M	SD
Lecture Based (N=16)	39.67	20.06	70.85	12.47
Video-case Based Instruction (N=15)	38.24	8.61	82.92	11.75

A 2 x 2 (Group x Test) ANOVA with repeated measures on the second factor was completed on test mean scores. The results revealed significant main effect for test scores, F (1, 29) = 171.05, $p < .05$. The main effect for groups by tests interaction were statistically significance F (1, 29) = 5.51, $p < .05$. However the main effect for groups was not statistically significance F (1, 29) = 1.79, p= .191. In the light of these, it is deduced that there is not significant difference between the test scores students who received video based instruction and who received lecture based instruction with traditional method with respect to the achievement of content knowledge, although the mean differences between pretest and posttest of video-case based instruction is greater than lecture based instruction in the third session.

The score results of Repeated Measures ANOVA for Pretest 3 and Posttest 3 are presented in Table 4.7.

Table 4.7
Scores Repeated Measures ANOVA for Pretest 3 and Posttest 3

Source of Variation	*SS*	*df*	*MS*	*F*	*Sig of F*
Between Subjects					
Groups	446.75	1	446.75	1.79	.191*
Error Between	7227.89	29	249.24		
Within Subjects					
Tests	22218.45	1	22218.45	171.05	.000*
Tests by Groups	716.11	1	716.11	5.51	.026*
Error Within	3766.94	29	129.90		

* Denotes significant difference at the 0.05 level of significance.

Dependent Variable: Test Score

4.2. The Results of the Research Question 2

Research Question 2: What are the perceptions of students in experimental and control group toward the skills and characteristics of a good teacher?

After the first session, the students in experimental and control group were asked an open-ended question. The question was: “Please state at least three characteristics and skills of a good teacher”. The responses were analyzed in relation with the themes in the video.

The Themes in the Video: ‘Stand and Deliver’:

The film ‘Stand and Deliver’ was demonstrated to the students in experimental group followed by a classroom discussion on video and the content at the first session. The students in the control group were treated with lecture based session and they were not demonstrated the film before the discussion hours. The

film is a dramatization of the teacher Jamie Escalante's efforts to motivate his class and the students' efforts to master calculus. The themes which were focused on in discussion hours were derived from the film and they were established, representing dimensions of the skills and characteristics of the teacher in the movie. The themes are:

- Credibility
- Sense of Humor
- Effective use of instructional strategies
- Set of goals and determined to attain them
- Teach enthusiastically and love teaching
- Holding high expectation for success
- Motivational skills
- Communicational skills
- Classroom management
- Providing feedback and reinforcement

Below the students' responses to the question and their percentages in overall are stated in the Table 4.8. In the first 11 categories the response rate is greater in experimental group compared to control group. In the last 4 categories the control group students responded in a greater number compared to the students in experimental group. The responses directly in relation with the themes in the movie are marked with * in the Table 4.8.

Table 4.8.
Open-ended Question Responses with Greatest Frequency

Response Category	Experimental Group Number of Responses	% of Total	Control Group Number of Responses	% of Total
* credibility	38	11.9	20	6.3
* sense of humor	35	11	20	6.3
* effective use of instructional strategies	28	8.8	3	0.9
* set goals and determined to attain them	26	8.2	3	0.9
* enthusiastic	23	7.2	7	2.2
* hold high expectations for success	23	7.2	9	2.8
* motivation	18	5.7	4	1.3
* communicational skills	21	4.7	3	0.9
* classroom management	4	1.3	1	0.3
* provide feedback and reinforcement	4	1.3	0	0
experienced	0	0	4	1.3
planned and well prepared	1	0.3	5	1.6
objective	0	0	6	1.9
serious	0	0	2	0.6
	221	69.5	97	30.5

* Categories in relation with the themes in the video

The results of the open-ended question showed that, a greater number of responses (69.5 %) were gathered from the students treated with video-case based session with respect to the characteristics of a good teacher compared to the responses gathered from lecture based instruction (30.5 %). The responses of the students in experimental group which were found with highest frequencies are

related with the themes in the movie. A primary emphasis was on what students could see concurrently in the video, as represented by the teaching practices of the teacher in the movie. Student responses in relation with the themes in the video were analyzed under the theme headings below:

Theme 1-Credibility: The greatest focus in students' responses was on credibility. It is referenced in 11.9 % responses of experimental group and 6.3 % responses of control group as a characteristic of a good teacher. Variables that have emerged as salient factors of credibility are trust, competence, and dynamism. The students' responses such as subject matter knowledge, pedagogical knowledge, interdisciplinary knowledge, trustworthiness and dynamism are all counted in this category. These are the main characteristics of the teacher in the movie. Students' responses highlighted this feature as the predominant characteristic of a successful teacher with a greater frequency in experimental group when compared with control group.

Theme 2- Sense of Humor: Majority of students' reflections in control group and experimental group was given to humorous style of teaching as characteristics of a good teacher. Students in the experimental group showed greater response rate (11 %) when compared to the students in control group (6.3 %). During the discussion sessions of video-case based instruction, teacher's humorous style in the movie was a focus point. Students in the experimental group put much more emphasis on this feature when the response rates are considered. It shows that the feature linked with the exemplary cases in the video made them recall this feature and emphasize as an important characteristic of a good teacher.

Theme 3-Effective use of instructional strategies: Effective use of instructional strategies is reflected in the responses of students in which experimental group students (8.8 %) showed greater emphasis than the control group students (0.9 %). In the movie, the teacher used many authentic instructional strategies especially for retention. These instructional strategies were discussed in the classroom discussion hours, and techniques were evaluated. Students' responses such as creativity during instruction, use of effective questions, and authentic style of teaching are counted under this category. These are the key features of the teachers' teaching style in the video. Therefore students appreciated the feature of effective use of instructional strategies as a characteristic of a good teacher in the experimental group with a higher frequency rate in their responses.

Theme 4-Set of goals and determined to attain them: The movie was generally about the efforts of a teacher to motivate his class and the students' efforts to master a very difficult subject. Setting goals, being patient, determined to attain the goals and supportive are some of the responses given by the students that can be accounted under this theme. The students in the experimental group made a greater focus on this theme in their responses (8.2 %) than the students in the control group (0.9 %). The results demonstrate that teachers' high motivation to attain the goals is highly appreciated by the students who were exposed to video-case based instruction.

Theme 5-Teach enthusiastically and love of teaching: Another greatest focus in students' reflections was on enthusiasm and love of teaching and students.

Students in the experimental group showed greater response rate (7.2 %) when compared to the students in control group (2.2 %). The students' responses

such as love of teaching, love of students, being an admired teacher, help students solve their problems, passion and ambition of teaching are all counted in this category. These features which were all emphasized in the responses of students in experimental group were illustrated in the movie and they were the main characteristics of Jamie Escalante who was highly enthusiastic in the classroom.

Theme 6-Holding high expectation for success: In the film ‘Stand and Deliver’, the teacher held high expectation for success from his students and always encouraged them to set higher goals. This focus point was reflected in the responses of students, showing more number of responses from the students in experimental group (7.2 %) compared to control group (2.8 %).

Theme 7-Motivational skills: Another dimension of characteristics of a good teacher identified in the open ended question responses was motivational skills. This reflection accounted for 5.7 % of all responses gained in the experimental group and 1.3 % in the control group. The teacher in the movie used many motivational strategies to make the classroom an interesting place, to gain the attention of students and to make the content interesting. The higher frequency rate of the responses gained from experimental group students expresses that they appreciated this feature and counted as a good teaching practice.

Theme 8-Communicational skills: Communicational skill is another feature of the teacher in the movie. Eye contact, use of empathy, good speech, listening to students and use of body language are all counted in this category. Students in the experimental group had more responses (4.7 %) on this focus point compared to the students in control group (0.9 %).

Theme 9-Classroom Management: Many classroom management strategies were used in the movie. The students in the experimental group were demonstrated different classroom management strategies used by the teacher in the movie. Greater number of responses was gained from the students in the experimental group (1.3 %) compared to the students in control group (0.3).

Theme 10- Providing feedback and reinforcement: In order to motivate students the teacher used many reinforcements and feedback in the movie. This theme had a greater number of responses from experimental group (1.3 %) students than the students in control group (0 %).

The themes in the movie were more reflected in the responses of experimental group students compared to control group students. On the other hand, the students who were exposed to lecture based instruction were more concentrated on the features of successful teachers such as being experienced (1.3 %) , planned and well prepared (1.6 %), objective (1.9 %) and serious (0.6). In the movie, the nature of teacher and his teaching style can be considered much more humanistic compared with traditional approaches. Therefore students' responses in experimental group were focused on humanistic style of teaching such as being humorous, using motivational skills, being enthusiastic and communicating well with the students. On the other hand, higher frequency rate of the students in control group are concentrated around the skills of a good teacher which were much more traditional in nature.

4.3. The Results of the Research Question 3

Research Question 3: 'What are the attitudes of students who are exposed to video-case based sessions towards the course?'

The third research question addressed the attitudinal preferences of students toward video-case based instruction. Two group interviews were conducted with the students in experimental group. The results of interviews are summarized under the subheadings below:

Students' attitudes towards the course at the very beginning of the semester

Students were asked about their attitudes towards the course at the very beginning of the semester. Three of the students stated that they were afraid of the course due to the following reasons:

- After the prep year, they can forget the things they learned at high school.
- Since EDS is a broad subject including many verbal elements, they had to cover a lot of topic.
- The course could have resembled the EDS courses they took at high school. Those courses were boring and mostly depended on teachers' explanation of the subject.

All of the students expressed that their negative attitudes towards the course changed because they were motivated by the films, had fun and learned the content at the same time. One student stated that there was a "progressive" learning environment.

All of the students stated that their attitudes towards the course changed positively. They added that they enjoyed from the course more when they watched the films. One of the students pointed out that since the films were related with the content, they understood the content better.

The responses of students to this question show that although students have negative attitudes toward the course at the beginning of the semester, the nature of the course together with the videos changed their attitudes in a positive manner.

Relations between the videos and the content

Students were asked about how the relations between the content and the videos were set. All of them stated that, before sessions, the instructor informed them about the points they should focus while they were watching the films. Half of the students mentioned that they had some comparisons between the instructional methods in real life teaching environments and those implied in the films. Furthermore, they continued that with the aid of the films, they compared their own instructional methods with the ones in the films and Turkish Education System with the system applied in the film. One of the students gave an example from the film as below:

> "In Dead Poets Society" the teacher made students torn their books, it resembles to our course to some extend since we also don't have a definite book in our course. This was the first time I am involved in an EDS course that has no book."

Responses declare that the video-cases used in the discussion sessions provided students opportunities to link what they learned in the classroom with real teaching-learning situations.

Instructors' method of setting the relations between the videos and the content

All of the students stated that the relations set by the instructor were enough. One student stated that the instructor gave a lot of examples from the real life. They focused on the subject better because; the instructor called their attention on some points before the demonstration of the videos which made them focus on the topics he mentioned during the films and explained those topics after watching the films.

Prior information about the points in the videos made students focus on some points while watching the cases. Through using video-cases, attention should be paid on the prior information about the video cases and the content of the session before watching the videos.

Instructor's role in video-case based method

All of the students stated that the role of course the instructor is very crucial. One of the students added that the teacher's role and techniques of using this method is more important. For instance, he watched the same film with another teacher before, but it didn't affect him like this one.

Most of the students emphasized that instructor's positive attitudes towards students, student's positive manners towards the instructor and those relations between the videos and the content made this process productive. They commented

that teacher's role in delivering content via this method, managing whole process and making students comfortable in the classroom is very important. One of the students stated that he would never forget a saying of the course instructor that is "I tell stories, but the job of student is to grasp the main idea, message and the details from the stories," and continued that the instructor had many contributions in this process.

Responses declare that instructor role in the use of video-cases is very crucial. Therefore, the potential of using video-case based instruction to some extend depends on instructors' performance before, during and after the application.

Effects of videos on the achievement of the content

All of the students stated that the content became more meaningful with the videos. They added that instructors' questions both about the films and the content increased their achievement of the content and made them think purposefully. Two third of the students emphasized that unless the videos were not used in the course, they would not internalize the topics, memorize without understanding the subject and forget easily what they learn. Therefore, use of video cases presented more meaningful content to them which could increase the achievement of students.

Effects of videos on motivation

All students emphasized that, the videos increased their attention towards the content. One student stated that because they knew that they would relate the examples in the films with the content after demonstration, they watched the films

more carefully. She continued that they commented on the points in the videos before they come to discussion hours.

According to the students, the videos increased their motivation towards the course. One student declared that until then he had just missed only one class hour. Another student continued that previously, in the mornings, they came to classes unwillingly just because there were educational sciences courses. But this time they came to the class willingly and were more motivated. One of the students emphasized that they wanted to come to the class just because there was a film demonstration on that day. Therefore, use of video cases calls students' attention toward the course. They willingly attend the class hours with increased motivation.

Effect of videos on achievement and success

When they were asked to evaluate their own achievements, all students responded that they learned:

- how to be a good teacher,
- what to do in classroom,
- how to treat students in the classroom.

One of the students stated that he developed teaching tactics to apply in the classroom. Moreover, one student added that since the learning depended on more retention and less on memorization, their success would increase in a positive manner and they would not rush to study on the last day before the finals.

Effects of videos on retention

All of the students stated that video based course sessions increased the retention of the information thought. According to them, apart from memorization, they learned by experiencing. One student added:

> "If the teacher explains the content all the time, after a while we don't remember what is thought. But if you watch a film, you could remember it even after months. If you relate the examples in videos with your life, than they become more permanent. We took EDS courses before at high school, but due to the memorization, we don't remember many of the things we learned."

One of the students stated that learning by seeing is important in learning environments and increases the retention. Since the examples are from real life, clear connections were set between the course content and the examples in videos. One of the students continued:

> "For instance we learned the characteristics of a good teacher. If I don't remember those in the future, I could remember them by just thinking about the movies. Later on I could comment on how I should behave in certain teaching situations just by thinking about how the teacher acted like in the movie"

Video-case use in instructional process provides recall of information, because the cases are linked with the content studied in the classroom and presented via multimedia.

Effect of audio-visual elements of the videos on retention

Students were asked whether the exemplary scenarios were explained in a book verbally, it would have the same affect or not. One third of the students stated that if the cases were delivered via books and verbal materials, it wouldn't have been as effective as the videos and visual elements of the videos increase the retention. One of the students added:

> "Videos make many senses work all together. For instance we could see, listen, watch and make the connections at the same time. This assists the learner in retaining the information."

All of the students stated that when they hear about a topic they learned with videos, scenes from the videos came to their mind immediately. Below are some of the examples they gave from the movies:

> "Our instructor complained about the hot weather one day, and we said to him to use oranges just like Jamie Escalante used in the movie."

> "I remember they were going to somewhere with the car, and the teacher said "you only see the bends in front of you, you don't look at the road. For instance, if we read this from a book, it wouldn't be such impressive or we wouldn't remember it easily like this."

The recall of examples from the videos shows that students could recall the scenes and cases from the videos at the end of the semester and could give examples related with this issue. Retention of knowledge increases by using video cases and connecting them with the course content.

Comments on the first session, "Stand & Deliver" and class discussions

Students were asked a question about whether their thoughts changed about "characteristics of a good teacher" after they watched the active character "Jamie Escalante" in the film "Stand and Deliver" and attended the discussion hours. One of the students stated that they had some ideas about this topic, however after the session their point of view changed, and they looked from a different perspective. Afterwards, students commented on the ambitious character "Jamie Escalante" and how he works to reach his goals. One of the students stated:

> "There are some teachers who just explain the subject and than leave the class. We get bored while they explain the subject. However Jamie Escalante is different. He has a goal and in the end he reaches his goal even it was difficult to attain. But many teachers don't have a goal, they just teach and go. They think that it is enough for them, they earn their money and that's all."

Another student continued that if she faced with the same problems in her profession as a teacher, she would give up. However after watching the film, she realized that stand out against those difficulties bring success together.

Moreover students were asked whether they want to apply teaching methods used in the films in their teaching profession or not. Two of the students stated that those methods conducted in the classroom seemed unreal. Teaching "calculus" to the students who don't have any prior mathematics knowledge is very difficult and unreal. Although the efforts of the teacher are appreciated, it is hard to develop students' mathematical intelligence on the last year of high school.

One of the students expressed that he liked the motivational techniques of Jamie Escalante. He continued:

> "Teaching fractions with apples was a very good method of teaching. I asked my own student a question of what the results of squire root 5 plus squire root 2 was. He couldn't answer. Later I said it is just like the same as summing up an apples plus an apple, the result is two. This is the same as this. My student said that he understood. I used the method in the film, in my own teaching practice."

The students' examples provided about the movie "Stand & Deliver" clearly related with the content of the session called "Becoming a Good Teacher". The cases in the video made students think about the characteristics of a good teacher, evaluate them, and comment on these. Students looked from e perspective of a teacher and worn the shoes of Jamie Escalante, the teacher in the movie, and commented on how they could act within the same situation. In other words they taught like teachers.

Comments on the second session, "Dead Poets Society" and class discussions

Students were asked about their comments on educational philosophies in relation with the film "Dead Poets Society". One of the students stated that they first analyzed teacher's teaching styles in the film, later they made some comparisons on educational system applied in the school and in Turkey. Afterwards they discussed about the educational philosophies used in the school. Two of the students expressed that the teacher in the film used progressive methods although the school was

adapted to perennialist approach. One of the students stated that previously, he had some ideas about progressivism but those were not internalized. Progressive methods used by the teacher in the film and other examples come to his mind when he thinks about some features of progressivism. All of the students expressed that the examples in the film make the content more clear and understandable.

The observation of educational philosophy application in a real school environment provided students opportunities to link what they learn in their coursework with the points in the film. Therefore, the abstract concept of philosophies became more concrete with the examples in the video-cases.

Comments of the third session, "Learning Centers", "Another Brick in the Wall by Pink Floyd" and class discussions

Students were asked about their comments on constructivist methods in relation with the video "Learning Centers" and the video clip by Pink Floyd, another Brick on the Wall. All of the students stated that they didn't know what learning centers were, so that they couldn't answer the questions related with learning centers in the pretest. One of the students' expressed that if the concept of "learning centers" was explained without the video, they could not illustrate the examples in their mind.

In the last session a concept of "learning centers" was selected as the subject of the video in order to determined students reflections toward a subject about which they are not familiar with. Interview results show that videos assisted students to understand the content better.

4.4. Summary of the Results

Research on video case use in preservice teacher education programs has been conducted by the researchers in the field in order to build strong links between the coursework of students and real classroom situations, and thus increase the quality of instruction. This study aimed at providing empirical data to the body of knowledge about video-case use in teacher education programs. To do so, two methods of instructions were conducted for the purpose of the study namely; video-case based instruction, lecture based instruction. These two methods of instructions were compared in terms of their effectiveness of delivering the course content. Pretests and posttests were analyzed to answer research question 1 which concerned whether there is a significant difference between tests mean scores of the students who were exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content. The responses to open-ended question were analyzed in order to find out students perceptions towards successful teachers' characteristics both in experimental group and control group. Interviews were conducted with the students in experimental group in order to examine their attitudes towards video-case based instruction. The results of both quantitative and qualitative data are summarized below:

1. The results of pretests and posttests demonstrated that there are significant differences between tests' mean scores of students in the experimental and control group with respect to achievement of content knowledge in the favor of video-case based instruction in the first two sessions. On the other hand there is no significant difference between the students who received

instruction with video-cases and those received instruction with lecture in terms of content achievement in the third session.

2. The responses to open-ended question were analyzed to understand students' perceptions towards characteristics of a successful teacher. In the movie, the nature of teacher and his teaching style could be considered as much more humanistic compared with traditional approaches. Therefore students' responses in experimental group were focused on humanistic style of teaching such as being humorous, using motivational skills, being enthusiastic and communicating well with the students. On the other hand, higher frequency rate of the students in control group are concentrated around the skills of a good teacher which are much more traditional in nature.
3. The interviews were conducted with the students treated with video-case based instruction in order to understand their attitudes towards this instructional method. A list of specific findings by area of interest follows:
    a. Video-case based instruction changed students' negative attitudes towards the course.
    b. Observation of video cases and participating in discussion about the cases provided students opportunities to connect their coursework with the real teaching practices.
    c. Prior information about the focus points in the videos increased students' attention towards specific cases in the video.

d. Instructors' role in delivering the content via video cases is very crucial. The potential of gain from video-case based instruction enhances with instructors' performance before, during and after the application.
e. Use of video-cases during the instruction made the content more meaningful.
f. Use of video-cases during instruction increased students' attention towards the subject and their motivation towards the course. They enthusiastically attended to class sessions.
g. Students indicated that their achievement of the course content increased via video-case based method and they would be successful in their exams.
h. Students asserted that video-case based instruction provided retention of what they learned. Connection of content with the cases in the videos assisted them to recall of information in the future.
i. Students emphasized that audio-visual feature of videos is very important in retention process.
j. Discussion on video-cases made students think like "teachers" and look from a teacher's perspective to the classroom issues.

This chapter has presented the results obtained from the analyses that tested the hypothesis of the study and introduced insights about the perceptions and attitudes of students towards video-case based instruction. These findings will be discussed in the following chapter. Conclusions, interpretations and future implications will be presented in the Chapter V.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

5.1. Introduction to Concluding Remarks

The purpose of the study was to examine the effect of video-case based models on student achievement of the course content and whether there is a difference in student achievement of content knowledge between video-case based instruction and traditional lecture based instruction. Moreover, it is aimed to examine the perceptions and attitudes of students toward the content of the course and video-case based instruction. For the purpose of the study, these research questions were studied:

1. Is there a significant difference between test scores of the student who were exposed to video-case based instruction and those who were exposed to traditional lecture based instruction with respect to achievement of the course content?
2. What are the perceptions of students in experimental and control group toward the skills and characteristics of a good teacher?

3. What are the attitudes of students who are exposed to video-case based sessions towards the course?

The previous chapter presented the results obtained from pretests, posttest and interviews. This chapter details the conclusions, interpretations, implications and future implications based upon those results.

5.2. Conclusions and Interpretations

The results show that preservice teachers who were exposed to video-case based instruction significantly outperformed their peers who experienced lecture based instruction. Although the results did not showed significant difference between tests mean scores of students in the last session, the greater mean scores of experimental group students supports the effectiveness of video case use in instruction. The results of the present study regarding the effectiveness of video-case based models in preservice teacher education programs are supported with findings of previous research studies. Initial research and background material used for preparation and presentation of the video cases used in the study indicated that they would have a positive effect on students' content achievement (Hylton, 2000; Hult & Edents, 2003, Friel & Carboni, 1999, Bliss & Mazur, 1996).

> The results of open-ended question analysis also demonstrated that students' gain of insights from the course content is much greater in the experimental group. The greater response rate to open ended question by experimental group students demonstrate that video example made them recall and appreciate characteristics of a good teacher as similar the teachers' characteristics in the video. Preservice

> teachers exposed to video cases were able to write more elaborative descriptions about qualities of a successful teacher than those who did not have the video-case based instruction. These results are compatible with Randolph and Evertson's (1994) indication that "using video-cases in the method courses helps students focus upon factors that influence teaching and learning."

The results of the interviews showed us positive effects of video-case based instruction on students' attitudes towards the course. Video-cases acted as motivational elements and gained attention of students towards the course. Friel and Carboni (1999) in their previous research stated that, video-case model provides opportunities to connect preservice teachers' university coursework more explicitly with actual classroom practices and provides some unique opportunities to consider ways to interact with and study students. The results of the current study support this claim. Students' indication of moving from more abstract concepts to more concrete experiences reveals that the model provided students meaningful experiences.

The students indicated that retention of their learning increases with the use of video cases, gaining the benefits of "live scenes with audio-visual elements". This audio-visual feature of videos provided students opportunities to connect the content with real representations of teaching situations. Given that the majority of students in this study will not actually employ what they learned through the course until they have completed the semester; it is of great importance that Bandura's theory indicates that it is possible for students retain what they have learned from modeled displays for performance at a later time. Therefore further research should be conducted in order to determine the retention of learning.

Multiple choice and essay tests may not have been the best outcome measures for evaluating the gains of video-case models. The use of video describing and showing assistive technology devices does not, by itself, constitute situated instruction within a problem solving context. Inherent in an anchored instruction format is the presentation of a related authentic problem that draws upon the anchor as a framework for the problem solving and higher-level thinking skills needed to determine possible situations.

Despite these limitations, video-based pedagogy has a potential to provide alternative experiences that may stimulate reflection and reconstruction of beliefs on the part of the preservice teachers, moving from a didactic to a more student-centered pedagogy (Friel & Carboni, 1999). Since most preservice teachers have little opportunity to observe effective teaching in an actual classroom, their first learning experiences were based in a traditional classroom where rules were applied methodically to solve problems. Video case studies can bridge the gap of preservice teachers' lack of experience base to meaningfully observation of classrooms' complex and rapid interactions (Cannings & Talley, 2003).

5.3. Implications for Practice

Video-case models could probably also be used for staff development with in-service teachers. Traditional teacher education and staff development programs could integrate video-case use as it was done in this study. On the other hand, other possibilities exist for the use of video-cases through distance learning platforms. Distance learning systems could offer teachers great possibilities to observe variety of classroom situations, communicate with their peers, discuss the issues to extend

their learning and reach other resources for their improvement in teaching profession.

Through constructing video cases which demonstrate different classroom situations, a library of video-cases could be formed. These video-cases could be used in a variety of courses delivered in the faculty of education as part of students' pedagogy education. The more video cases developed, the more there is a potential of using them in appropriate contexts of teaching. In Turkey, since there is a limited study on the use of video-case models, there is an emergent need for constructing video-cases demonstrating different classroom settings around Turkey.

Video-cases cannot replace preservice teachers' field experiences but can be a means to explore teaching from multiple perspectives. Prospective teachers can discuss the implications about learning and modeling from watching video scenes from classrooms.

In conclusion, preservice teachers need opportunities to construct their own knowledge, acquire new models of teaching, and analyze teaching and learning process. Therefore teacher education programs should concentrate on alternative methods for providing prospective teachers to connect what they learn through their coursework with real teaching situations. To improve the quality of teaching-learning environments it is essential for educators to provide meaningful experiences to preservice teachers by means of contemporary methods such as video-case models.

5.4. Recommendations for Further Research

The results of the study lead to the following recommendation for further research

1. The study should be replicated over other semesters in an effort to increase the number of participants. Therefore the gained results could aid in confirming the results presented herein.
2. Research should be conducted with different grade levels, different courses with the students from different departments in faculty of education in order to measure the effects of this method on students' achievement in a variety of contexts.
3. Video-cases could probably be also used for staff development with in-service teacher education programs. Research could be conducted on the integration of video cases with in-service teacher education practices.
4. Long-term studies could be conducted to investigate effect of video cases on students' retention about the content in future contexts.
5. Further studies could be conducted on the use of video-cases in technology enhanced systems with different delivery formats such as Internet. Use of cases in distance education programs could be another research issue.
6. In order to increase the effectiveness of video-case models, dynamic delivery system should be developed containing lecture materials and other resources which will allow students individualized access to the supports they need. This method could be compared with the method used in this study in order to determine the effect of individualization on the outcomes.

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APPENDICES

APPENDIX A

STUDENTS QUESTIONNAIRE

Sayın Eğitim Fakültesi öğrencisi,

Bu anket sizinle ilgili genel demografik bilgileri ve EDS 119 dersi ile ilgili önerilerinizi almak amacıyla hazırlanmıştır. Sorulara verdiğiniz yanıtlar gizli tutulacak ve yalnızca araştırma amacı ile kullanılacaktır.

Size yöneltilen soruların her birini lütfen yanıtlayınız ve boş soru bırakmayınız. Sorulara vereceğiniz yanıtlar çalışmanın amacına ulaşması açısında önemlidir. Katkılarınız ve ayırdığınız zaman için teşekkür ederiz.

Evrim Baran

Ad-Soyad:
Yaşınız: Cinsiyetiniz: ☐ Kız ☐ Erkek Doğum yeriniz:
Mezun olduğunuz okul: Şehir:
Bölümünüz:
ÖSS Puanınız:
"Öğretmenlik Mesleğine Giriş (EDS 119)" dersini daha önce aldınız mı?
Daha önce aldığınız pedagoji dersleri:

APPENDIX B

INTERVIEW SCHEDULE

Research Question: What are the attitudes of students towards video-case based instruction in experimental group.

Date and Time: Interviewer: Evrim Baran

INTRODUCTION

Dear Friends

This interview will be held for the purpose of analyzing video based instructional method that was conducted during the semester. As part of this method, we watched the videos and studied the course content by using the cases from the videos and further discussions. This interview aims at collecting the data about your experiences during the course, your reactions and feelings towards this instructional method. Your feelings and ideas about the method are valuable both for the results of the study and for further implications about the use of this method. So, I am really interested in your personal reflections about the topic.

- This interview will be confidential, that is, your name will never be linked to your answers, but your answers will be combined with the answers of other students to give useful information that might be beneficial for the research.
- The interview should take about 10 minutes. Are you available to respond to some questions at this time?
- I'd like to tape our conversation?

Is it OK if I start?

1. Dönem başladığında derse karşı tutumunuz nasıldı?

2. Dersin video ve filmlerle işlenme sürecinde derse karşı tutumunuz nasıl değişti?

3. İzlediğiniz film ve videolarla gösterilen öğrenme ortamlarının derste anlatılan konularla ilişkisini nasıl kurdunuz?

4. Ders sürecinde dersin hocası film ve ders konuları arasındaki ilişkiyi nasıl kurdu?
   ALT Q 1. Sizce ders sürecinde film ve ders arasında kurulan bağlantılar yeterli miydi?

5. Bu izlediğiniz film ve videoların konuları öğrenmeniz üzerinde nasıl bir etkisi oldu?

6. Dersler bu yöntemle işlenmeseydi, geleneksel yöntemler işlenseydi film ve videolar olmadan, öğrenme ve motivasyonunuz nasıl değişirdi?

7. Bu film ve videoların motivasyonunuz üzerine nasıl bir etkisi oldu?

8. Bu öğretim yönteminin başarınız üzerinde nasıl bir etkisi oldu?
   PROMPT: Midterm sonuçlarına bakmadan kendi kendinize değerlendirirseniz başarınızı nasıl bir etkisi olmuştur?

9. Bu yöntemin öğrenmenin kalıcılığı üzerine nasıl bir etkisi oldu?
   PROMPT: Peki, bu görsel birşey olduğu için mi akılda kalıcılığı artıyor, örneğin bir hikaye ile anlatılsaydı ya da kitap olarak okusaydınız aynı etkiyi bırakır mıydı?

10. Jamie Escalante filmini izledikten sonra “iyi bir öğretmenin nasıl olması gerektiği” konulu bir ders işlendi. Daha önce bu konuda ne düşünüyordunuz?
    ALT Q.1. Filmi izledikten sonra düşünceleriniz değişti mi?
    ALT Q.2. Filmde gördüğünüz yöntemler konusunda ne düşünüyorsunuz?
    ALT Q.3.İleride öğretmenlik hayatınızda bu yöntemleri uygulamak ister misiniz?

11. Ölü ozanlar derneğini izledikten sonra da eğitim felsefeleri konusunu işledik. Film ve eğitim felsefeleri arasında nasıl bir bağlantı kurdunuz?

12. Daha sonra Learning Center uygulması ve Pink Floyd’un bir klibini izledik. O derste daha sonra işlenen constructivism ve learning centers konuları arasında nasıl bir bağlantı kurdunuz?
    ALT Q.1. öğrenmeniz üerine nasıl bir etkisi oldu?

13. Geleceğin öğretmeni olarak bu dersi film ve videolarla işlemek isteseniz, nasıl farklı işlerdiniz?

14. Derste öğrendiklerini hem eğitim hem de öğretim hayatınızda nasıl uygulayacağınızı düşünüyordunuz?

15. Eklemek istediğiniz başka birşey var mı?

Teşekkürler.