IMPACT OF CONSTRUCTIVIST LEARNING PROCESS ON PRESERVICE TEACHER EDUCATION STUDENTS' PERFORMANCE, RETENTION, AND ATTITUDES

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I certify that this thesis satisfies all requirements as a thesis for the degree of Doctor of Philosophy.

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ABSTRACT

IMPACT OF CONSTRUCTIVIST LEARNING PROCESS ON PRESERVICE TEACHER EDUCATION STUDENTS' PERFORMANCE, RETENTION, AND ATTITUDES

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The purpose of this study was to examine the impact of constructivist learning process on preservice teacher education students' performance, retention, and attitudes in Classroom Management Course.

In this study, an experimental design and a case study design were used together. The sample (n = 144) were third year preservice teachers at the Foreign Languages Education program at Middle East Technical University, Turkey. The experimental group (n = 76) was subjected to social constructivist learning process, while the control group (n = 68) was subjected to traditional instruction for eleven weeks.

Data were collected through qualitative and quantitative methods. Findings show that posttest scores were not statistically different between the experimental and the control groups. However, a significant difference was found in the retention

scores in favor of the experimental group. The conceptual change the learners went through was evident in their metaphorical images which tend to change from a more controlling image to images that depict leadership, sensitivity to individual differences, and student learning.

Descriptive findings indicate that retention was fostered through constructivist activities that mainly included reflective writing, critical thinking, and problem solving. Factors such as active learning, meaningful and enjoyable learning environment, and the attitudes of instructors had a positive impact on student learning. Nevertheless, the load of reflective diary writing and portfolio preparation tasks, and collaborative work could be overwhelming and discouraging and these impacted negatively on learners' attitudes towards the course.

Keywords: Preservice teacher education, constructivist teacher education, classroom management

ÖZ

OLUŞTURMACI ÖĞRENME SÜRECİNİN
HİZMET ÖNCESİ ÖĞRETMEN EĞİTİMİ ÖĞRENCİLERİNİN
ERİŞİ, KALICILIK VE TUTUMUNA ETKİSİ

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Bu çalışmanın amacı, öğretmen eğitimi programlarında yer alan Sınıf Yönetimi dersinde oluşturmacı öğrenme sürecinin öğrencinin erişi, kalıcılık ve tutumuna etkisini araştırmaktır.

Çalışmanın örneklemi (n = 144) Orta Doğu Teknik Üniversitesi, Yabancı Diller Eğitimi Bölümü, üçüncü sınıf öğrencilerinden oluşmaktadır. Deney grubunda (n = 76) oluşturmacı, kontrol grubunda (n = 68) ise geleneksel öğrenme süreci uygulanmıştır.

Bu çalışmada, deneysel ve durum çalışması desenleri birlikte kullanılmıştır. Veriler nitel ve nicel yöntemlerle toplanmıştır. Erişi ile ilgili sontest bulguları deney ve kontrol grubu arasında bir farklılık göstermemiştir. Buna karşılık, kalıcılık testinde deney grubu daha başarılı olmuştur. Öğrenciler sınıf yönetimi ile ilgili kontrol etme özelliği taşıyan kavramların yerine liderlik, bireysel farklılık ve öğrenmeye özen gösteren kavramları ön plana çıkarmaktadır.

Deney grubundan elde edilen nitel sonuçlar bilginin kalıcılığının, yansıtma, eleştirel düşünce ve problem çözme içeren oluşturmacı etkinlikler aracılığıyla gerçekleştirilebildiğini göstermektedir. Aktif ve anlamlı öğrenme ortamı ile öğretim elemanlarının olumlu tutumunun, öğrenme sürecini olumlu etkilediği ortaya çıkmıştır. Ancak işbirlikli çalışmaların, yansıtıcı günlük ve grup çalışmalarının çok olması öğrenci motivasyonunu zaman zaman azaltmıştır. Dolayısıyla bunlar öğrencilerin derse karşı tutumlarını olumsuz etkilemiştir.

Anahtar kelimeler: Hizmet öncesi öğretmen eğitimi, oluşturmacı öğretmen eğitimi, sınıf yönetimi

To my sister Fatma Akar,

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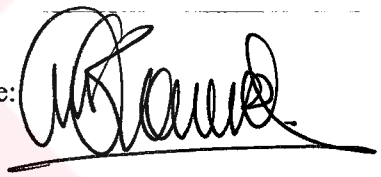
For a debt of thanks beyond words, I would like to express my gratitude to my sister Fatma Akar, my brother Yasin Akar, and my parents for their support and love.

I hereby declare that all the information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Date: 12.31.2003

Signature: 

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CMC = Classroom Management Course

LOS = Lower Order Thinking

HOS = Higher Order Thinking

CHAPTER I

INTRODUCTION

Where do correct ideas come from? Do they drop from the skies? No. They come from social practice and from it alone.

Mao Tse-Tung

This study attempted to examine the impact of constructivist learning process on learners' achievement, retention, and attitudes in Classroom Management Course in preservice teacher education. It also examined the conceptual change the preservice teachers went through by indicating their metaphorical images about classroom before and after the implementation. In addition, their perceptions about the learning environment they were subjected to were qualitatively explored. The introduction chapter of this dissertation starts by providing a brief historical background of constructivist theories, and continues by presenting relevant research and theory in the field of education and teacher education. The first chapter concludes by addressing the research questions and significance that guided the entire research study.

1.1. Background to the Study

Educational theories have been of much controversy in the history. Traditional epistemology is mainly about teaching theories. They include concepts such as "behaviorist, objectivist, and positivist." Although each carries a different vision of methods and teaching techniques, they all in all carry the notion of delivering content from a teacher-centered perspective. Their sole purpose is to help learners master facts, accomplishments, and relationships that are inherent in a specific knowledge domain. In other words, traditional epistemology tends to focus attention on students' performance rather than on the reasons that prompt them to respond or act in a particular way (von Glasersfeld, 1994).

Epistemological streams such as existentialism, phenomenology, interpretivism, experientialism, certain modes of idealism (Greene, 1996), progressivism and reconstructionism have reflected a stark contrast to the traditional ones. In his "Critique of Pure Reason" Kant rejects the traditional thought of education and indicates that escape from experience is to escape significance (Wolker, 1996). According to Kant the sole purpose of education should be the principles from which all actions spring. This can be enhanced by having the child learn to think (von Glasersfeld, 1995). Thus, experiential pragmatic education was foreseen, and this can be translated into having the prospective teacher learn to think and apply their conducts for future practices accordingly.

Among Kant's counterparts Rousseau made it explicit that educational plans should be based on "nature" rather than "art" (Wolker, 1996). He believed that the education of his period clogged students from being active since it involved rote learning, and was boring since it was beyond the child's individual comprehension (Marlowe and Page, 1998). The impulses of the child ought to be allowed to develop rather than be forced. They should be shaped prematurely, or subjected to exogenous control by precept or instruction (Wolker, 1996). Such objections to knowledge-based learning have led to what Fosnot (1996) calls "a paradigm shift" in education. Consequently, "constructivism" emerged from cognitive science that provided a bridge in the transition from traditional to post-modern epistemologies.

The new paradigm, "constructivism," is a psychological philosophical perspective contending that individuals form or construct much of what they learn and understand (Shunk, 1996). It is a descriptive theory that highlights the way people learn or develop rather than the way they should learn (Richardson, 1997). Based on the idea that learners construct their learning to previous learning, Limón (2001) states that research on conceptual change explored students' prior conceptions overall about scientific phenomena and instructional strategies were developed to promote conceptual change.

It was Jean Piaget first who set the foundations in constructivism by stating that knowledge does not have the purpose of producing representations of an independent reality, but rather has an adaptive function (von Glasersfeld, 1996). The cornerstone of his epistemology was that cognitive development was alongside the biological development of an individual. Thus, mental functions were mainly considered as internal. The gap that constructs a "disequilibration" between adapted and unadapted responses in activating the schemata is regarded as a means for conceptual change (Limón, 2001, Woolfolk, 2001).

On the other hand, Lev Vygotsky counter argued and explained the notion that higher mental functions were external and social before they were internalised. Conceptual change occurs through a number of socio-cultural interactions between the individuals and the environment. Vykotsky's notion of "zone of proximal development" can be argued to be the focal point in such conceptual change. Galperin, a post constructivist, extended this zone by including a teaching-learning model of the formation of mental actions, the theorist integrated the notions of mediation, activity and internalization and revealed the teacher as an expert who represents the discipline from which the subject matter has been drawn (Haenen, 2001). Vygotsky's social constructivism exposes the past experiences and the frames that both teachers and classmates hold. Those dispositions contribute to the student learning process by making concepts, facts, and generalisations come to life by giving personal meaning (Jadallah, 2000). Apart from those, von Glasersfeld introduced, as its name implies, a radical perspective of constructivism. According to the radical constructivist view, cultural capital constitutes a foundation for learning that illuminates learners' efforts to make sense of experience in terms of what is

already known. A dialectical relationship between radical constructivism and socio-cultural phenomena situates individual sense-making in a community of others in which each individual is a potential teacher and learner (Tobin, 1998).

Constructivist teaching and teacher education contexts fall apart under these three camps of constructivism. One camp relatively teaches students how to teach in a particular constructivist matter, and is considered to be Piagetian. On the contrary, the second camp emphasizes the internalisation of the learning, and gives much emphasis to the individual in the learning process. The third one, learning is regarded as a social construct, and the interactions of the individual with his or her cultural environment promotes learning by building upon previous knowledge constructions.

Piaget conceptualised cognitive tools as logical-mathematical operations that are universal and do not vary across cultures and social contexts (Vadeboncoeur, 1997). Although von Glasersfeld (1997) argues that Piaget considered social interaction in his theory of cognitive development literature on constructivist theory does not reveal much evidence about the cultural aspect of interactions that take place in Piaget's epistemology. In Piagetian learning contexts, the cultural aspect of the instructional environment may be in risk of being neglected. Classroom settings are dynamic environments and if teacher education learners are provided with situations in which they can construct their knowledge through verbal interaction with peers, they may become more pragmatic and flexible about the social and cultural teaching contexts they will be in.

It is Vygotsky's sociocultural constructivism that asserts that knowledge is constructed through interactions in the social world. It abandons the traditional views, introduces a new range of theoretical departures, and values shared as opposed to individualist value investments (Gergen, 1994). In addition to the above, it provides with learning environments in which group discussion or social negotiation, inquiry, reciprocal teaching, humanistic education, computers, and hypermedia are utilised (Woolfolk, 2001). Then, it is indispensable that the socio-cultural aspects exposed in the classroom interfere with learning and lead to a new knowledge construction on how to deal with forthcoming issues. Critical thinking,

problem-solving, development of metacognitive skills, and information processing seem to be the aspects that play a crucial role in such conceptual change.

Jadallah (2000) suggests a planning process that integrates cognitive and social constructivism in conducting social studies so that the abstract constructivist ideas of knowledge and experience are more openly defined through curriculum making and instructional planning. On the other hand, Windschitl (1999) refers to the increasing popularity of constructivist learning by emphasizing its effects on teachers, including increased demand on subject-matter understanding. The researcher asserts that teachers must continually struggle to develop a new, well-articulated rationale for instruction decisions. Such shift, the author argues, can not be realised by utilising previous teaching or learning.

Consequently, the teachers themselves should find ways to challenge the new classroom dynamics of diverse social and cultural contexts. According to Richardson (1997) working with teachers and/or preservice teachers help them build awareness of their own tacit understandings, how these develop, and the effects of these understandings on their actions, and introduce new conceptions and premises as potential alternatives to those held by students.

Tynjälä (1997) examined the changes in conceptions of the learning process of educational psychology students in a constructivist and a traditional learning environment. The researcher found that students' conceptions changed similarly in both groups, except that the students in the constructive learning group emphasized more often the role of critical thinking and other student activity in learning. Ziegler (2000) examined characteristics of teachers' perceptions, and factors influencing teachers' perceptions of constructivist teaching and learning practices on student math achievement. He found that different dimensions of constructivist teaching, learning, and supervisory practices have different effects on student achievement.

Tenenbaum et al. (2001) attempted to identify characteristics of constructivism and their presence in face-to-face and open-distance learning environments. Findings indicated that constructivist teaching and learning components were not sufficiently present in any of the settings investigated despite the positive intentions of the participants. Balakrishnan (2001) investigated the use of

constructivism and technology in project-based learning in elementary classrooms and found that teachers' planning and practice of project-based learning activities are focused more on multiple instructional activities and less on integration of constructivism and technology. Julius (2001) investigated how constructivism was evidenced in the beliefs, perceptions, and practices of middle level teachers who were considered to be effective teachers. The results revealed that constructivists held awareness of the role of both student and teacher in affecting the cognitive development in students.

Ladd (2000) compared teacher education programs and graduates' perceptions of experiences. The author suggests that alumni involvement in program reform of teacher preparation can provide valuable information for improvement of educational practices. Stewart-Wells (2000) investigated student teacher and teacher educator perceptions of their teacher education programs and the role classroom management plays or should play in preservice teacher education. Student teachers revealed that being given more "hands-on" real life stories on how to resolve classroom management issues before, during, and after problems in this area emerged as essential.

In the Turkish education contexts, an increasing number of studies attempt to examine the impact of constructivist learning on student performance and attitudes. Yıldırım, Özden, and Aksu (2001) made use of constructivism in hypermedia environments compared to traditional learning instruction in secondary biology education through an experimental design. The authors wanted to examine how hypermedia learning environments contributed to declarative, procedural, and conditional knowledge acquisition and retention in a specific area. They found that both experimental and control groups' learning outcomes were similar in their post-test results; however, retention test results showed that the experimental group retained all three types of knowledge significantly better than did the control group.

At preservice teacher education level, Kesal (2003) tried to explore the constructivist aspects used by teacher educators in Foreign Language Teaching Departments. She found that although the teacher educators held cognitivist or constructivist conceptions of learning, students were behaviorist in their conceptions

of teaching. This finding can be a reason for having difficulty in translating their knowledge about constructivist approach to teaching and learning in their field practices.

Another study is that of Koç (2002). The author tried to find out the effects of constructivist learning environments on learners' affective and cognitive learning outcomes at a vocational education faculty in the development of preschool teachers. An experimental design was used, and findings showed significant differences in the achievement on higher level learning and their retention, and problem-solving skills. However, no difference was found with respect to lower level of learning, and their retention and problem-solving skills.

With regard to higher order learning, Semerci (2003) examined doctorate students' critical thinking skills obtained through attending the courses "Development and Learning" and "Planning and Assessment in Instruction". The author measured students' critical thinking skills through the Scale of Critical Thinking Skills. Semerci found that students developed critical thinking as they were encouraged to carry out research, to ask questions in class, and discuss issues. Let alone the fact that not all prospective teachers will pursue a doctorate degree, one might question whether the learners had not had the possibility to develop these skills in the earlier phases of their learning process.

While Semerci measured critical thinking skills of doctorate students, Bahar (2003) measured the impact of group work on the achievement of sophomore students in preservice science teacher education. Bahar conducted a comparative study and found that students in the experimental group showed significantly higher scores than the control group on the achievement test. Findings indicate that the discussion-based group work in the experimental group was favored both by field dependent and field independent students, while in the control group learning was benefited by field independent students more than did the field dependent students. Bahar explains that the discussions are guided through a problem-solving task. Yet, falls short in explaining the epistemological approach the experimental group utilized.

The impact of active learning on elementary school students' achievement and attitudes in science education was measured by Korkmaz (2001). The active learning tasks were designed with regard to multiple intelligences. The findings indicated that the science achievement scores of the experimental group outperformed the control group. The author also found significant differences with respect to students' attitudes toward science in favor of the experimental group. Consequently, Korkmaz shows evidence that active learning impacts positively on student achievement at elementary level in a Turkish context. Consequently, it is critical if active learning also impacts positively on the achievement and attitudes of higher education learners.

In an era in which knowledge becomes two-fold every other half-decade, it is indispensable to help learners become self-regulated and self-sufficient in the spur of knowledge construction. Since classrooms are changing dynamics, it is crucial that prospective teachers (as learners) need to be empowered to ask questions to themselves and/or peers and know how to seek answers and cope with the raising issues in diverse classroom environments.

Alas, it is the duty of the teacher educator to help the pre-service teachers raise consciousness about such dynamics, and provide optimal learning for all the individuals in their classes. Thus, the preservice teachers are first to experience the much proposed learning environments before they can adopt them to their future practices. Then, it is crucial that the impact of constructivist learning activities on learner achievement, attitudes, and perceptions about the context they are subjected to be meticulously examined.

1.2. Purpose of the Study

The purpose of this study is to examine the impact of constructivist learning activities on the teaching and learning process on learners' performance and attitudes in Classroom Management Course in pre-service teacher education. Under the roof of this purpose there were four themes that guided the research process and gave shape to the research questions presented below.

R.Q. 1: Is there a significant difference between experimental (subjected to constructivist learning process) and control groups' (subjected to traditional instruction) achievement and retention in Classroom Management Course as measured through a multiple-choice test and an open-ended essay-type test?

R.Q. 2: Is there a significant difference between experimental (subjected to constructivist teaching and learning process) and control groups' (subjected to traditional instruction) attitudes toward Classroom Management Course as measured through an Attitude Scale?

R.Q.3: What are the metaphorical images of classroom management the learners hold before and after being subjected to constructivist learning environments?

R.Q.4: What are the learners' perceptions about the learning process in Classroom Management Course?

1.3. Significance of the Study

Conducting a study on a comparison of constructivist learning process and traditional instruction in terms of learning achievement, retention, attitudes, and perceptions about the learning environment is significant from several perspectives. Recent research on constructivism abounds in instructional applications both within classrooms and teacher education contexts.

An increasing number of research studies highlight the importance of constructivist teacher education in educating preservice teachers. Literature on constructivist teacher education argues that practices in the culture of a constructivist learning environment will help teachers to become agents of change who use

knowledge of developmental theory and the ideas of inquiry and reflective teaching to learn (Kroll & Laboskey, 1996). Anderson and Piazza (1996) examined aspects that indicate students' commitment to a constructivist philosophy to lack evidence of constructivism. The authors assert that a finding as such lies on the fact that constructivism emerges from experience and reflection. They underscore that the constructivist learning environment is a need if we want preservice teachers to experience differently than they did in their experiential backgrounds. Kaufman (1996) supports such view and states that for constructivist practices to emerge in schools, teacher education programs must use constructivist approaches to engage teacher candidates in interdisciplinary exploration, collaborative endeavors, and field work opportunities for experiential learning, self-observation, evaluation and reflection.

Similarly as mentioned above, more research emphasizes the need of teacher educators to model the environment they want their students to establish if we want teachers to become agents of change. Holt-Reynolds (2000) suggests that the teacher educators more often engage themselves in asking novices to learn how to elicit student participation and then use students' existing ideas as a mainstream for helping them construct new, more reasoned, more accurate, or more disciplined understandings. In other words, it is bluntly stated that teacher educators should practice what they preach (Kroll & Laboskey, 1996; Tilleme & Kremer-Hayon, 2002). Teacher educators are expected to be role models and explain the pedagogical and didactical decisions they make (Lunenberg & Korthagen, 2003). It is only through extensive questioning, reflecting, and constructing that the constructivist paradigm shift in education will ever take root in teacher preparation efforts (Fosnot, 1996), relevant knowledge is dependent on the quality of interactions that occur within the context of meaningful and relevant experiences (Jadallah, 1996).

While there is evidence that teacher educators do not always teach in the way they preach (Lunenberg & Korthagen, 2003; Tate, 1993; Tilleman & Kremer-Hayon, 2002), neither is the precise nature of the supportive environment for constructivist education made clear (Klein, 2001). Niemi (2002) argues that such lack of knowledge in active learning methods and strategies, and metacognitive strategies at all levels of schooling cannot only be promoted by preservice teacher education. The

author involves all partners in the learning society to promote such achievement, and suggests that the learning ethos in schools should be changed. Alas, the restructuring of teacher education programs evolves as teacher educators and teacher candidates engage in a learning cycle that brings together new initiatives in response to upcoming needs and leads to mutual growth and development (Kaufman, 1996).

Theory and research reveal positive tendencies to creating constructivist learning environments as well as flaws pertaining to practicing it in diverse educational contexts (Julius, 2001). A crucial point is that higher education teachers have a tendency to underestimate or overlook the fact that how teachers can contribute directly to their students' behaving in ways that we might think perplexing or unacceptable (Kaufman et al., 1988). Constructivist tradition needs to be initiated within general education and preservice teacher education settings to gain continuity throughout learners' professional life. Well-managed classrooms are important in establishing healthy learning environments; nevertheless, managing student behavior has always been a demanding task. It inquires self-questioning and careful reflection.

Research reveals that constructivist environments are conducive to conceptual change, student achievement, and promoting self-regulated learners. Due to the flaws in the theory, there is hardship in transforming theory into practice due to some misconceptions like seeing dialogue the only means to development. The significance of sociocultural constructivism is that construction of knowledge goes beyond biological maturation and dialogue; it entails social interaction with the individual in the meaning making of the culture, which facilitates learning. Aspects such as taking ownership of learning, problem solving, and critical thinking are aptitudes that need to be fully embraced or exploited in knowledge construction are highlighted.

In Turkey, there are not many research studies that indicate that teachers or teacher educators promote higher order thinking contexts for their learners. What is more, many courses in preservice teacher education are mostly submitted in a traditional way. Such an approach is often criticized for the fact that those traditional approaches utilized may fall short in leading the students to think critically and solve problems in their future occupations. As there is evidence in the literature that

constructivist learning process may equip the learners with these higher mental abilities, than it as important to provide them with social constructivist learning opportunities, so that these might be reflected to their future classrooms. In addition, it is crucial to understand if social constructivist learning in the Turkish specific culture may result with the same findings as revealed in literature in teacher education undergraduate programs. Another significance is that there is no study conducted on the impact of constructivist learning process in preservice teacher education in Classroom Management course in Turkey yet. The need to fill this gap by exploring how constructivist learning environments in comparison with traditional learning environments relate to cognitive as well as affective outcomes is critical.

It is hoped that this study challenges learners (or preservice teachers) attending Classroom Management course both affectively and cognitively. Since there is little research study with regard to classroom management course, findings are expected to contribute to the literature on teaching and learning in pre-service teacher education programs both at national and international level. Moreover, outcomes pertaining to developing classroom management skills are expected to provide evidence whether learners adopted the essential skills for future purposes.

Doubtless, teaching requires teachers who can meet the needs of diverse students in diverse contexts. In other words, teachers should hold skills that help them to cope with the social and cultural demands of the learning environment they are in. This study provides insights on how learners may cope successfully with future professional demands in socially and culturally diverse contexts as they frequently question and reflect upon knowledge and construct new knowledge

Another significance is that this study is critical for understanding classroom contexts due to several reasons; what students learn and how their learning develops involves psychological reactions to the instructional context. Instruction and learning differ by content area. Whether learning about classroom management creates a difference in the choice of instructional delivery is a critical issue. In other words, the experimental comparison of traditional and constructivist classroom environments provides us with insights to understand how these affect learners' achievement and attitudes toward the theoretical approach.

In sum, the new paradigm "constructivism" is characterized as emergent because it is not fully adopted into practice in preservice teacher education in Turkey. The significance of this study is to examine whether constructivist practices in the classroom help students make deeper, more meaningful knowledge constructions than those derived from traditional classroom practices in preservice teacher education to meet future educational challenges.

1.4. Definition of Terms

Constructivism: A learning theory contending that learners construct their own understanding based upon previous learning and social interaction.

Social constructivism: Social constructivism, also called as "socio-cultural constructivism" or "constructionism," links the socio-historical psychology of Vygotsky with that of schooling (Hausfather, 1996). According to this view, human actions or higher mental functions are mediated by tools and signs called semiotics. Language and culture are considered to be means to lead to higher mental operations. In other words, knowledge is actively constructed by individuals or social communities through cultural tools (Jonassen, 1998; Simons, 1997; Tynjälä, 1999; Wilson, 1997).

Constructivist learning environment: It describes teaching and learning settings where learners can draw upon resources to reason and construct meaningful solutions to problems. The contexts are explicitly based on constructivist epistemology and are designed to support learners' knowledge construction processes (Tynjälä, 1999)

Traditional instruction: Classroom instruction that is based on lecturing, recitation, and reading assignments. Although these settings may include pair work, or group work tasks, they are dealt with from a top down perspective.

Classroom management pedagogy: Refers to dealing with the teaching and learning process based on the extent of arranging the physical setting, organization of

task, optimal use of class time, effective planning of instruction, building learner motivation, and avoiding disruptive behavior.

CHAPTER II

REVIEW OF THE LITERATURE

This section covers the historical development, characteristics, theoretical bases of constructivism, and its implementation in education through explaining some constructivist programs. Next, relevant research studies in the field of education and teacher education, including research on metaphorical applications to learning and student learning styles are reviewed. The review of the literature concludes with a summary of the literature review and the implications for the current study.

2.1. Constructivist Traces from the Past

In the section on constructivist traces from the past, a snapshot of early and contemporary philosophers who were interested in education or the construction of knowledge is given. It provides some highlights on the philosophical thought of the great thinkers and how their thought is relevant to the contemporary approach that learning is a social construction.

2.1.1. Early Philosophers

The adoption of different theoretical models and application of different assumptions about the nature of human learning has resulted in raging controversies

and paradigm shifts within educational psychology up to present day. The paradigm shift in the epistemology of knowledge and theory of learning abounds with speculations, and Applefield et al. (2000) call this the ascendancy of subsequent decline of behaviorism, and in contrast the rise of cognitivism.

A quick glance into the teachings of popular philosophers, we may find traces of the thought of constructivist learning. Socrates, a BC 420th Century philosopher, was one who believed that knowledge transmitted by a teacher or another person was not per se understood or taught. The educational aim of Socrates was for individuals to define themselves through self-examination and self-analysis. The former was means to seek the truth that is universally present in all human beings (Ornstein & Levine, 1993). He believed that a person needs to understand by having the teacher just to guide them by giving some hints or what he calls "signpost". Purely by questioning, Socrates was able to elicit from an uninstructed slave the conclusion that the square on the diagonal of a square is twice the original square in area. Discussing how a slave could reach a conclusion without instruction raises the question of what knowledge and understanding was. In a philosophical talk with Meno, a friend of Socrates's, Socrates convinces him that learning and knowledge are distinct. From their conversation, Meno understands that:

> ...what is called learning is not really learning but recollection by the arguments we have gone through, namely that without being told a man discovers the truth, and, as we now have seen, that he could never be told either in this life or at any other time but must perceive the truth of himself if he is to know it. ... The reason why he cannot be taught is that a teacher can only draw his attention to signposts and hints whereby he opens his intellectual eye and looks in the right direction and now utters and sees the truth of what he says about the real mathematical objects that he is looking at (Anscombe, 1981, p. 41-42).

The above dialogue shows us that according to Socrates knowledge cannot be perceived or understood by just being told, he emphasized that the internalisation of the knowledge by the individual is essential. The individual does not discover the truth by his or her own existence; rather it is a teacher who provides certain probes or hints that helps the learning or the understanding process. Such implications are explicit indicators of social constructivist approaches to teaching and learning in "Socratic Dialogue."

Another philosopher who cared about knowledge and learning is J. J. Rousseau. Rousseau is most likely to be considered as one of the pioneers whose writings were regarded as an enlightment in the 18th century French Revolution. In his significant work "Emile", Rousseau made explicit that a plan of education should be according to "Nature" rather than "Art," in which the impulses of the child are allowed to develop rather than be forced. The children should be shaped prematurely, or subjected to exogenous control by precept or instruction (Wokler, 1996). Rousseau believed that education provided during his time clogged students from being active since it involved rote learning, and was boring and far beyond the individual's comprehension (Marlowe & Page, 1998). He asserted that the society was corrupted and that the child needed to become self-reliant so that it would not be guided by the corrupted human race. His testimony was that a child was born physically and spiritually incomplete, so he or she should be allowed to he naturally be educated while passing through the stages of organic growth from infancy to childhood. Nevertheless, his thoughts were refuted or underestimated since the influence of the aspect "society," or the environment on the cognitive development of a child was not indicated explicitly. Rousseau's ideas related to the internalisation of learning by an independent individual implies to have some links with the radical thought of von Glasersfeld who is discussed in section 2.2.2.

Among Rousseau's counterparts, in his "Critique of Pure Reason" Kant referred to the fact that there was also progress in philosophy and rejected the traditional thought of education like Rousseau had done. True use of the achievement of the past was suggested to be taken further in philosophy. To escape experience was considered to escape significance, and to go beyond sense (Strawson, 1984). Kant asserted that particular instances of general concepts had to be encountered in experience. In other words, Kant referred to the significance of experience in the process of development. Also, he pointed out that the human being was to reason every new learning since "thoughts without content are empty, and intuitions without concepts are blind "(Kant, cited in Strawson, 1984, p. 294). Actually, von Glasersfeld (1990) argues that it was Giambattista Vico in 1710 that came to a very similar conclusion much before Kant (1780s). Vico's slogan was that "the human mind can know only what the human mind has made", and with a Piagetion point of

view he assumed that space and time were not necessarily priori categories, but suggested that they, too, were human constructs.

Kant thought of himself as investigating the general structure of ideas and principles which is presupposed in all our empirical knowledge; but he thought of this investigation into the structure and workings of the cognitive capacities of beings such as ourselves. The idiom of the work is throughout a psychological idiom. Whatever necessities Kant found in our conception of experience, he ascribed it to the nature of our faculties. In his spur of enlightment, he recognized the need for individuals to possess or construct free thought or self "truth". While Kant divides philosophy into two domains; theoretical or natural philosophy which derives from understanding and practical, or moral, philosophy which derives from reason, he argues that a third domain, "judgment" acts as a regulator between the former ones (Tyronne, 2001). Tyronne argues that the link between Kant's philosophy and constructivism is that all ideas and concepts, which are represented in modernity as knowledge, are explainable in nature. On the other hand, his aesthetic and reflective judgment is essential to modern educational practices because they allow grounds for human judgment in synthesizing the so-called "truth". This type of development seems to have connections with a latter century's biologist, Piaget who is accepted as the predecessor of cognitive constructivism (von Glasersfeld, 1990). Although Kant had many brilliant ideas about the ways and or means of conceptual construction, he is criticized for giving up the search for ontological truth himself (von Glasersfeld, 1995). In his short essay called "Defective Understanding," Voltaire asserted that "The greatest geniuses may be in error about a principle they have accepted without scrutiny (Voltaire, 1972, p. 189). One might argue that the ontological truth Kant was seeking might have been nothing more than the search for objective truth as Voltaire implies.

2.1.2. Contemporary Philosophers

Delving into the history of philosophical talks, there is much to be found about education and criticism of classical theory of knowledge construction. Nietzsche asserts that a theory that does not criticize itself or does not seek

explanations of knowledge with scientific methods are destined to fade away. He states this as follows:

> Philosophy reduced to 'theory of knowledge' in fact no more than a timid epochism and doctrine of abstinence _ a philosophy that never gets beyond the threshold and takes pains to deny itself the right to enter _ that is philosophy in its last throes, an end, an agony, something inspiring pity. How could such a philosophy _ *dominate*? (Nietzsche, cited in Kaufmann, 1992, p. 313).

Among many of recent philosophers, emphasizing that scientific knowledge is constructed as a social process, the prominent ones can be said to be Bruno Latour, Steve Woolgar, Ian Hacking, and David Bloor. Latour and Woolgar (1986) talked about the social construction of scientific facts in their work "Laboratory Life." Latour and Woolgar - the former not knowing the science or the native language used - ironically discuss their approach to studying the construction of scientific knowledge in a laboratory by collecting data as that of a sociologist (Latour & Woolgar, 1986). They studied the process going on in a scientific laboratory as an outsider without taking into account the conceptual and theoretical materials the scientists in the laboratory were discussing, questioning, and taking as their framework. They state this as avoiding "going native." They wanted to ensure that knowledge that was discovered was based on political grounds and that issues of truth are irrelevant and have no causal role (Phillips, 1998). From their observations they concluded that scientific facts are really about their own social construction, rather than some independent reality (Klee, 2003).

David Bloor (1991) also sees knowledge as a social imagery. The radical philosopher talks about "a strong program" in which he links hard sciences such as physics and mathematics on social factors such as traditions or interests. Bloor argues that the sociology of knowledge focuses on the distribution of belief and the various factors that influence it. In other words, those topics that are called for in the social contexts are offsprings for seeking the scientific explanation of the case. This argument can be linked with that of Latour's (2000) prologue: "Did Ramses II die of Tuberculosis." Latour discusses the death of a pharaoh based on a bacillus that was discovered, or perhaps socially constructed as he claims, in 1882. In other words, he died of a bacillus that was discovered 3000 years after his death. These metaphorical

explanations to seek reality behind a construct are linked to the social and cultural contexts. In other words, knowledge is constructed through events or phenomena that happen in the cultural environment. Hacking (2000) questions the social construction of what and claims that social constructivism has been exploited in the fields of science and or education. The philosopher introduces the notion of a "strong program," and reveals the importance of learning scientific facts. The above contemporary philosophers underscore social construction as a basis for knowledge. Yet, they regard this construction from a very radical point of view and seem to underestimate further influences such as the role of interactions and dialogue in the culture. In the following sections, a review of constructivism that has had profound impact in the field of education is discussed. Among those figures, this chapter elaborates on Vygotsky's notion of social constructivism that constructed the philosophy of the entire research study explained in this dissertation.

2.2. Cornerstones in the Construction of Knowledge in the 20th Century

It was with the developmental psychologist, Jean Piaget, that constructivism in educating the child was explicitly stated. His approach to learning is known as cognitive constructivism. Social constructivism, although a much different version from that of Piaget's, was known with the American pragmatists Pierce and Dewey. Later it arrived independently by Lev Vygotsky (Prawat, 1999). Vygotsky proposed that learning was more revealed as a process that grew through social interactions. On the other hand, von Glasersfeld looked at learning from a very radical point, and asserted that learning was a matter of the internalization of what is perceived. This section elaborates on Piaget, Vygotsky, and von Glasersfeld perceptions about the construction of knowledge respectively, and ends with a discussion about its communalities and differences regarding constructivism.

2.2.1. Jean Piaget and His Developmental Theory

Piaget's constructivist theory is based on analogies with biological evolution and adaptation. Piaget believed that the child's own actions in the world were

important to cognitive development. He believed that the social context was important in this development process, but yet the individual was seen as developing in isolation, behaving like a little scientist, making his or her hypotheses and testing them to construct an understanding of his or her environment (Das Gupta & Richardson, 2001). Piaget's theory postulates highly complex cognitive structures and functions being built up from simple initial processes in conjunction with personal action and experience. These structures are continually internalized by action on the world. The internalization and representation of mental operations such as knowledge and cognition is argued to evolve through a series of stages. Changes from stage to stage are bound to accomplishments by a bulk of developmental processes (Das Gupta & Richardson, 2001; Woolfolk, 2001).

Piaget sought to describe and explain the intellectual development in the individual as a form of adaptation to the environment. In other words, the operations throughout the stages develop by processes of equilibrium, assimilation, and accommodation. Equilibrium was described as a dynamic process of self-regulated behavior that balances assimilation and accommodation. Assimilation is about organization of experience dependent on one's own logical structures of understanding meaning of the environment (Fosnot, 1996), and in order to have the learning occur, a state of disequilibration needs to happen to accommodate new learning. Disequilibrium facilitates learning as such that errors are perceived as a result of learners' conceptions and should not be avoided or minimized. Rather learners are suggested to be allowed to explore and generate many possibilities in challenging, open-ended inventions in realistic, meaningful contexts (Fosnot, 1996). The internalisation of knowledge construction is emphasized. This theory is fraught with implications for educating individuals. Teachers are suggested to create environments that enable learners to explore meaning through experimenting. As such, working with peers may facilitate undertaking challenges tasks.

However, in his latter years, Piaget moves slightly away from the isolation of the individual and stresses in the social aspects of development. Piaget emphasizes his epistemological perspective with the following words:

> Fifty years of experience have taught us that knowledge does not result from a mere recording of observation without a structuring activity on the part of

> the subject. Nor do any a priori or innate cognitive structures exist in man; the functioning of intelligence alone is hereditary and creates structures only through an organization of successive actions performed on objects. Consequently, an epistemology conforming to the data of psychogenesis could be neither empiricist not preformationist, but could consist only of a constructivism (Piaget, 1980 cited in Phillips, 1995, p.6)

Despite the nonexhaustive scientist, Piaget, tended to shift from the isolation of the individual to a more social learning process, von Glasersfeld put a stronger emphasis on the internalisation of knowledge, which is explained in the following section.

2.2.2. von Glasersfeld and Radical Constructivism

Ernst von Glasersfeld is known for his "radical constructivist" philosophy, and seems to be much influenced by the classic empiricists Locke and Berkeley (Philips, 2002). According to von Glasersfeld, knowledge is not passively received but built up by the cognizing subject. In his view cognition is adaptive and serves the organization of the experimental world, not the discovery of ontological reality (von Glasersfeld, 1995). There is a reality around us and the individual who knows or learns is in direct contact with experience. This experience is accepted as the "reality we live in" (von Glasersfeld, 1995, p. 116), and anything that lies outside the individual's experience is unknowable. Hereby, von Glasersfeld does not deny reality; however, he refers to it as an unknowable realm outside experience (Philips, 2002).

von Glasersfeld (1990) asserts that the traditional view of truth can never be claimed for the knowledge that human reason produces. According to his point of view constructivism needs to be radical, and must explain that one can manage without the traditional notion of Truth. Therefore, he prefers to call this orientation a "theory of knowing" rather than a "theory of knowledge", and regards his orientation as "a post-epistemological perspective" (von Glasersfeld, 1990).

von Glasersfeld (1996) refers to adaptive knowledge as the most important customary conception of truth or reality, and as the correct representation of states or events of an external world replaced by the notion of viability. To the radical

constructivist, concepts, models, theories, and so on are viable if they are proven to be adequate in the contexts in which they were created. Viability is relative to a context of goals and purposes. But these goals and purposes are not limited to the concrete or material that there is only one ultimate truth that describes the world. Thus, there will always be more than one way of solving a problem or achieving a goal (von Glasersfeld, 1994).

In constructivist perspectives, learning requires self-regulation and the building of conceptual structures obtained through reflection and abstraction. Problems are not solved by the retrieval of rote-learned right answers. To solve problems intelligently, one must first see it as one's own problem. One must see it as an obstacle that obstructs one's progress toward a goal (von Glasersfeld, 1994). Such statement reminds us of Piaget's adaptation process in which the state of disequilibration is means to solve the problem and move to a higher level of development.

von Glasersfeld underscores the importance of active learning and problem solving as does Piaget, actually. He strongly believes that concepts and conceptual relations are mental structures and these cannot be passed from one mind to another (von Glasersfeld, 1995). Radical constructivism is an epistemological thought that claims that scientific knowledge is entirely constructed out of social relations. In order to learn best, von Glasersfeld suggests the knowledge that kids are acquiring needs to be relevant and to their interest. He states that while reflecting the conceptual changes that kids make is far more rewarding than if it were imposed on by a teacher. He claims that a teacher cannot know what misconceptions or understandings of the subject matter the kids have built up. However, the teacher can create environments so that kids can act upon the basis of their ideas, and discover which of their ideas lead to friction or collision, and might be in need of revision (von Glasersfeld, 1995).

From a traditional perspective reinforcement fosters the repetition of what gets reinforced, regardless of the acting subject's understanding of the problem that was posed, and of the inherent logic that distinguishes solutions from inadequate responses. Thus, training may modify behavioral responses, but it leaves the

responding subject's comprehension to fortunate coincidences (von Glasersfeld, 1994). According to von Glasersfeld, knowledge does not constitute a picture of the world, rather it comprises action schemes, concepts, and thoughts, and it distinguishes the ones that are advantageous from those that are not. Thus, the cognizing subject evolves conceptually to fit into the world as he or she lives or experiences it (von Glasersfeld, 1995). As such the radical constructivist perspective makes the individual, a rather pessimistic view, "a prisoner in his or her own experiential realm" (Phillips, 1997, p. 183). If radical constructivists underscore that the learning is "live" within the individuals' mind, the social aspect seems to be underestimated. From this perspective, how can thought occur if the language is not socially constructed? "The primary aim of Vygotskian psychology, unlike the foci of social and radical constructivism, is to resolve the "crisis in psychology" between strictly idealist and materialist views of human development (Vygotsky, 1986).

2.2.3. Lev Vygotsky and Socio-Cultural Learning Theory

While Piaget emphasized the biological maturity and moved to a social tendency in constructivism, von Glasersfeld remained radical by asserting that the internalisation of knowing is a condition for learning. Vygotsky, on the other hand, held the idea that the developmental process was towed by the learning process. He supported the idea that any pedagogy not respecting this fact was sterile, and "Vygotsky links socio-historical psychology with a theory of schooling" (Hausfather, 1996, p. 2). According to this view of development, pedagogy creates learning processes that lead to development. He asserted that one needs to understand the relationship between development and learning, or the actual and potential levels of development. Actual level of development refers to the accomplishments that the individuals can show independently, whereas potential levels of development refers to the individuals problem-solving by the guidance of an adult or collaboration with a more capable peer (Palincsar, 1998). The latter refers to what is known as the "zone of proximal development.

Vygotsky organized a psychological laboratory at the pedagogical Institute in Gomel. Here, several investigations were conducted with preschool and school

children. These experiences were, in fact, some of the basic material for his work, on the psychology of art (Blanck, 1990). Unlike the foci of social and radical constructivism, the primary aim of Vygotskian psychology is to resolve the "crisis in psychology" between strictly idealist and materialist views of human development. Vygotsky attempted to integrate a number of disparate psychological approaches of his time (e.g., nascent behaviorism and Pavlovian reflexology, Gestalt psychology, genetic epistemology) under the banner of Marxian historical materials (Vygotsky, 1986 cited in Sink, 1997). Actually, his fundamental contribution to constructivism lies on his attempt to develop a cultural psychology.

Vygotsky believed that education should play the central role in the transformation of man, which he also stated as "the conscious social formation of new generations" (Vygotsky, 1994a). To that respect, he viewed the role of social and politechnical education as extraordinarily important. He refuted the idea that academic concepts are simply acquired via processes of understanding, or through teaching the child academic facts and helping them assimilate these concepts from an adult sphere of thinking. He underpinned that assimilation of concepts cannot be mastered by memorization only, the individual needs to undergo higher levels of thinking. Vygotsky stated that academic concepts arise and are formed with the help of the most extreme tension in the activity of the individuals' own thinking, and the fact that the individual reaches a certain level peculiar to school age. As for concept formation more complex nature should exist between the processes of education and development (Vygotsky, 1994b). In other words, Vygotsky asserted that teaching and learning process are effective when interactions took place in the presence of a more competent individual.

Vygotsky was mainly concerned with the social development of mind. He put forth that higher mental functions develop through participation in social activities (Bredo, 1995). He was more interested in the higher mental functions such as thinking, reasoning and understanding. Terms like critical thinking, higher order learning can be argued to have strengthened its roots upon Vygotsky's teachings. Development of such higher mental functions is viewed as social rather than individual processes (Light & Littleton, 1999). Being social lies on the fact that

individuals can achieve and differ much in the guidance of an advantaged individual, which is known as the zone of proximal development (Blanck, 1990; Shunk, 1996).

In the sociocultural theory of Vygotsky, as it can be seen above, three themes become significant. First, individual development has its origins in social sources. In other words, higher mental functions have their origins in social activity (Hausfather, 1996). Second, human actions or higher mental functions, regardless of being social or individual, are mediated by tools and signs, called semiotics. Third, individual development and human actions are examined through genetic or developmental analysis (Palincsar, 1998). Within this genetic developmental analysis the complex interwoven structures of meditational tools and signs, the individual and the social world is explored to understand learning and development and the transformation of tools, practice, and institutions.

First, the developmental levels are: phylogenetic, which is a field that distinguishes animals from human beings. Second, the cultural/historical, which is elaborated on the following sections, refers to the immense impact of practices of particular cultures, or similar cultural groups in the development. Next, ontogenetic analysis indicates how the physical or the mental challenge, age, temperament, and the fruits of individual history influence development, while microgenetic analysis deals with the processes of interaction between the individual and his or her environment. The latter takes into account the interplay of individual, interpersonal, and socio-cultural factors simultaneously (Palincsar, 1998).

Vygotsky's notion of learning is facilitated by social, cultural, and institutional processes. The interaction with a range of cultural tools is seen as central to the intellectual development as well as to becoming an effective member of the society. The basic tenets to Vygotsky's theory are that speech is social in origin and that language precedes rational thought and influences the nature of thinking. The voiced interpersonal functions during childhood gradually become intrapersonal as their significance is grasped by children (Garton, 1992). Vygotsky explained this process as follows:

> An interpersonal process is transformed into an intrapersonal one. Every function in the child's cultural development appears twice: first, on the social

> level, and later, on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relations between human individuals (Vygotsky, 1978, cited in Breda, 1997, p.)

The above quotation indicates that learners acquire new concepts or culture when they participate in group work, and through interactions, learners internalize "the effects of working together" (Palincsar, 1998). Cultural influences mean that the society provides the child with goals and structured methods to achieve them. Language is one of the key tools created by humankind for the organization of thinking. Language bears concepts that belong to experience and to the knowledge of humankind (Blanck, 1990). Dialogue emerges crucial for two invaluable tenets of constructivist practice, which are the process of collaborative learning and deep personal introspection into one's own learning process (Brooks & Brooks, 1993). In other words, the active use of language or other symbolic tools are indicators of Vygotsky's social constructivism. From birth, children interact with adults, who socialize them into their culture that may constitute from their stock of meanings, their language, and their conventions, to their way of doing things.

According to Vygotsky, children utilize lower order mental processes, elementary attention, perception, and memory within a natural line of development. Through constant development with adults, these processes are transformed radically into higher mental processes, which Vygotsky drew from the Hegelian concepts that saturate all the texts of Marx's "Capitol", Engels's Dialectics of Nature, and Lenin's Philosophical Notebooks, which demonstrate his classical orientation to Marxism (Blanck, 1990). In the next section, the zone of proximal development, a means to facilitate development into higher mental processes, is explained.

2.2.4 Zone of Proximal Development

Vygotsky introduced the construct of the zone of proximal development (ZPD) as a new approach that aims at matching the learning with the child's level of development (Palincsar, 1998). In other words, ZPD connects psychological perspective of child development with that of a pedagogical perspective on

instruction (Hedegaard, 1990). It implies the importance of the social environment and the support and assistance it can offer for development. It encompasses a degree of collaboration between participants in the social interactions towards a goal. In reaching the goal intersubjectivity is allowed. ZDP encompasses a degree of collaboration between participants in the social interaction towards a goal that is set. In reaching the goal intersubjectivity is allowed (Hedegaard, 1990). In other words, while the child is guided and supported to accomplish a solution, it learns how to achieve mutuality and intersubjectivity.

The main purpose of social interactions is to facilitate learning. The more advantaged participant gauges the preexisting skills and the required skills for instruction, and divides the tasks into manageable components. This type of active and constantly changing collaboration allows for the development of culturally appropriate and relevant knowledge and skills so that cognitive learning may occur (Garton, 1992). Thus, ZPD is the intervention that occurs in a particular time that the child cannot solve a problem independently, but is likely to succeed under the guidance or collaboration with a more advantaged participant to free the road to cognitive learning when congested. Educators who advocate constructivist learning should examine carefully how their curriculum and instructional practices involve students in relating concepts, facts, and generalizations to themselves as individuals and also to the broader social context.

2.3. Constructivism in Education

Piaget rarely mentioned the social aspects, yet, it totally differs from that of the social constructivist's, Vygotsky. Piaget argued that if the child is exposed to the response of a powerful figure such as an adult, it is unlikely to take issue with it. Whereas an exposure to a different point of view from an equal, will create a pressure towards resolution of differences, and this pressure in return will be likely to result a higher level learning (Light and Littleton, 1999). In brief, it was first with Piaget that constructivism was uttered fundamentally as a psychological philosophy. Peer interaction was emphasized as essential in the learning process to solve a

problem, which is known as socio-cognitive conflict in the literature of constructivism (Light & Littleton, 1999).

Jadallah (2000) suggests a planning process that integrates cognitive and social constructivism. Piagetian cognitive constructivism and Vygotskian social constructivism are discussed. In cognitive constructivism the emphasis is the individual constructing knowledge through a cognitive process of analyzing and interpreting experiences. Direct instruction is perceived as stifling the discovery process of learning. The purpose of any social interaction is simply to confirm or test one's understandings. The Vygotskian perspective, emphasizes on the social interactions with the teacher and other students are significant part of the learning process. Knowledge is not solely constructed within the mind of the individual; rather, interactions within a social context involve learners in sharing, (Balakrishnan, 2001; Jadallah, 2000) constructing, and reconstructing their ideas and beliefs. The emphasis is still student-centered and experiential, the teacher is more involved in planning and guiding social interactions that allow students to build and test knowledge within a social context. (Jadallah, 2000). Ultimately, these views of constructivism need to be addressed in the field of education.

Constructivism is an epistemological view of learning rather than teaching. Constructivists believe that certain activities and enrichments in the environment can enhance the meaning-making process, such as active learning using kinesthetic, visual and auditory modalities, creating opportunities for dialogue, fostering creativity and providing a rich, safe and engaging environment (Brooks & Brooks, 1996, cited in Osberg, 1998).

Constructivism is grounded in students' active participation in problem-solving and critical thinking. It inquires the importance of taking responsibility in the decision-making process. Knowledge construction is based on building upon previous knowledge experiences. Thus, new knowledge is integrated with the previous intellectual constructs. Integration of such experiences is facilitated through social and collaborative natures of learning such as scaffolding (Darling-Hammond, 2000; Shunk, 1995). The emphasis is on social and collaborative nature of learning. Collaboration entails sharing responses, ideas about given complex problems that

need higher order skills. In such sophisticated learning environments dialogue facilitates the learning process in constructing knowledge based upon existing knowledge. In addition to dialogue, mental manipulation, visualization, and the process of developing, testing, and discarding hypotheses (Shunk, 1995).

Knowledge cannot simply be transferred from teachers to students, it has to be conceived. Conceptual change should be provided through reality. Reality, however, is defined differently in constructivism. It is made up of the network of things and relationships that one relies on in our living, and on which, we believe, and others rely on (von Glasersfeld, 1996). Reality is not in the ideal world like that of Platon explains, but in the tasks the students are involved in, and how they deal with them. For instance, when dealing with authentic problem-solving tasks, the natural interaction that occurs in actual life is established in the learning context.

A student's conceptual understanding develops through experiences and is shaped through interactions with other people. That approach to constructivism goes well beyond the decontextualized biological process of cognitive constructivism that emphasizes the social and historical contexts of learning. It is important for educators who advocate constructivist learning to examine carefully how their curriculum and instructional practices involve students in relating concepts, facts, and generalizations to themselves as individuals and also to the broader social context (Balakrishnan, 2001).

In constructivist environments students are asked to deliberately take action to create meaning from what they are studying. In other words, learners adopt the role of investigators, seekers, and problem-solvers. While teachers become facilitators and guides, rather than presenters of knowledge, students learn how to use or apply the information in diverse contexts. Generative learning activities require "students to take static information and generate fluid, flexible, useable knowledge" (Dunlop & Grabinger, 1996, p. 67).

Reagan (1999) discusses some of the ways where constructivism can inform and promote effective pedagogical practice, and a better understanding of such practice in a foreign language context. The author argues that constructivist environments provide room for personal and individual construction of language. In

addition to individual constructions, collaborative work exposes misconstructions of meaning. The teacher's role in such contexts is more to provide input when needed, but they also reveal a student error to encourage self- correction. Reagan alerts that some methods and activities that facilitate language learning, for instance in one context might differ significantly from those of others. Constructivism, the author argues, does not only have implications for the language learner but also challenges the preparation of educators specialized in a field.

Constructivism does not claim to have earth-shaking inventions in the field of education; it merely claims to provide a solid conceptual basis for some of the things that, until now, inspired teachers who had to do without theoretical foundation (von Glasersfeld, 1994). Literature reveals three types of constructivism: namely, exogenous, endogenous, and dialectical (Moshman, 1982 cited in Applefield, 2000; Shunk, 1995). Although these forms of constructivism have been mentioned in the earlier sections under the roof of epistemological cornerstones in the 20th Century, the following sections elaborate on each.

2.4.1. Exogenous Constructivism

In line with the philosophy of realism, an external reality is constructed as knowledge is formed. The exogenic tradition generally entails a dualism in which the existence of an external world (a material reality) is set against the existence of a psychological world (cognitive, subjective, symbolic, or phenomenological) (Gergen, 1994). Exogenist thinkers give a strong emphasis on keen observation in the acquisition of knowledge. They tend to view emotion and motivation as potential hazards to the neutral contours of nature. It is also likely to stress the importance of knowledge in the individuals' ability to adapt to or succeed within a complex environment (Gergen, 1994). The exogenic view is favorable to examination procedures in which the primary emphasis is placed on assessing levels of individual knowledge acquisition.

2.4.2. Endogenous Constructivism

Endogenous constructivism deals with the internal, and the individual constructions of knowledge. The endogenic tradition believes that mind and world are independent, and that knowledge is a mental state. However, they view the world as self-evident, and raise questions concerning the way in which the mind operates so as to function adequately in nature. Like in the Piagetian theory, the individual mind is trying to resolve a mental disequilibrium. The essence is that learners negotiate the meaning of experiences and phenomena that are discrepant from their existing schema (Applefield, Huber, & Moallem, 2000; Gergen, 1994). Thus, the endogenic perspective is represented in education by curricula that place major emphasis on the rational capacities of the individual, rather than the amount of information that is important. Gergen (1994) states that in such contexts, class discussion is favored over lectures because cognitive skills are fully potentiated through active engagement. Thus, endogeneous constructivism requires student-centered activities that help the internalization process for the learning to occur.

2.4.3. Dialectical Constructivism

Dialectical or social constructivism pinpoints the view that knowledge construction occurs through social interactions that involve sharing and comparing, or conversing in a highly interactive process. The social milieu of learning is mutually built. That is, learners both refine their own meanings and help others find meaning. Dialogue is viewed as the catalyst for knowledge acquisition due to the exchanges of social interaction among individuals with a different cognitive ability (Applefield et al., 2000).

According to Gergen (1994) social constructionism represents a radical break with both the exogenic and the endogenic orientations to knowledge. It opposes the individual value investments and favors the communal ones. It suggests a substantially altered agenda both in terms of scholarly inquiry and educational practice. In its radical form, social constructionism does neither commence with the external world as its fundamental concern nor with the individual mind. Rather,

language becomes the utmost concern in knowledge construction. Language itself is regarded as semiotic means that is formed by the culture's accumulation of what one takes as knowledge in the social contexts we are in.

Much is said above that constructivism is grounded through social interactions, and, tools and symbols in those interactions are said to become means to knowledge construction. The following sections cover details about the essence of cultural and social tools in cognitive development.

2.5. Social and Cultural Dynamics of Constructivism

Vygotsky considered that it was critical to master external processes of cultural development and thinking through symbols as language, counting, and writing. When such processes were to be mastered it was time to use these symbols in influencing and regulating one's thoughts and actions (Shunk, 1995). In other words, Vygotsky refers to the language itself as the cultural tool. Windschitl (1999) states that teachers and administrators should understand that constructivism cannot make its appearance in the classroom as a set of isolated instructional methods grafted on to traditional teaching techniques. He asserts that it is a culture holding set of beliefs, norms, and practices that constitute the fabric of school life.

Dougiamas (1998) asserts that in cultural constructivism, there is a hidden value ascribed to the notions of diversity and adaptability. He adds that learners who can adapt quickly by learning in a complex world are more likely to adapt to changing conditions and survive as an individual. Then, it can be argued that pre-service teachers educated in a constructivist learning environment may be more adaptive in dealing with diverse social and cultural contexts, in which classroom dynamics are likely to be unpredictable. Thus, language as the cultural tool in Vygotsky's cognitive development plays actually a key-role in developing cultural sensitivity in the classroom since all learners should be provided with optimum learning contexts.

Thomas (2000) refers to four main components that may interact one and other in pedagogy: epistemology, process, context, and culture. And these may be

affected by political, economic, societal, research and innovation, teacher professionalism and finally culture. This interaction can be illustrated by a culture-sensitive pedagogical model (See Figure 1).

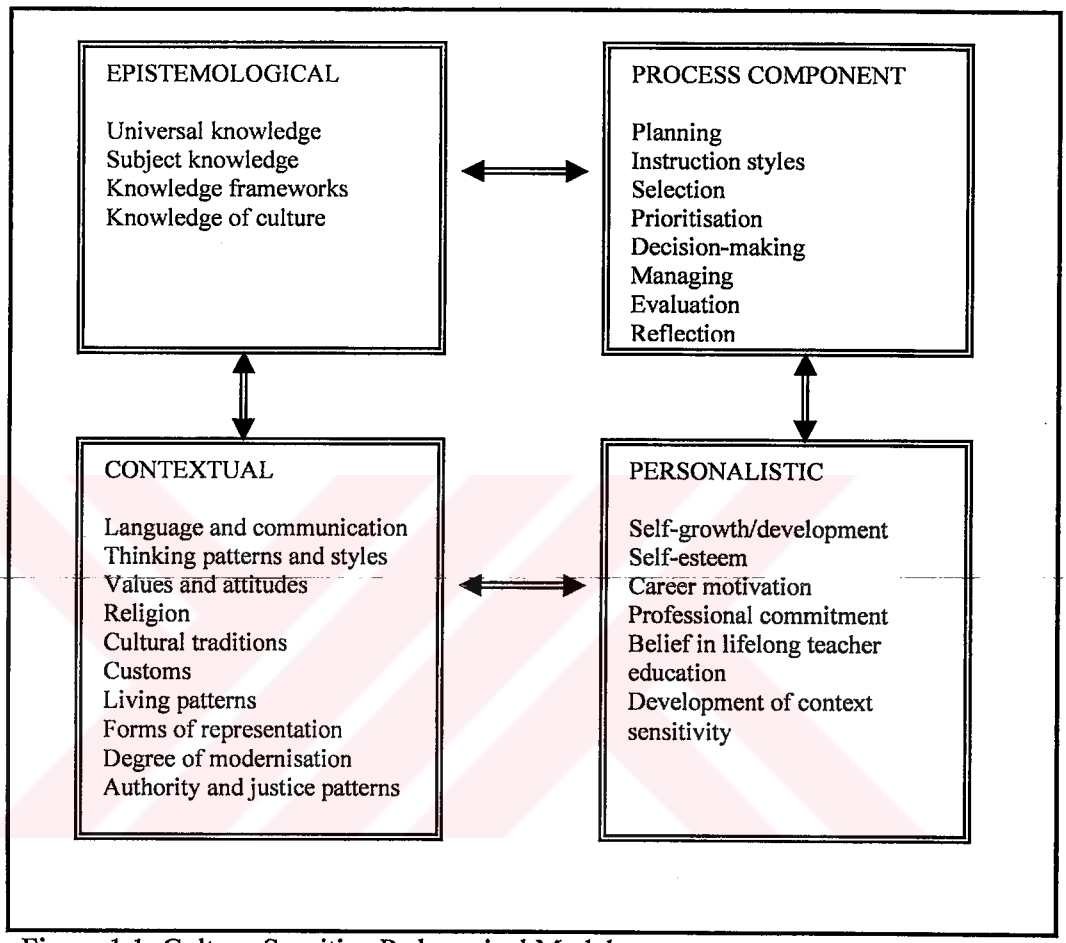

Figure 1.1: Culture-Sensitive Pedagogical Model
(Taken from Thomas, 2000, p. 92)

Caravita (2001) states that discourse should not be underestimated as a social activity since it serves purposes other than the mere exchange of ideas and reasoning, even in a context such as discussion. It is also used for negotiating social roles and it is constrained by many factors, such as the perception of self or the image a person is trying to build of himself. Learning how to participate in the school setting builds confidence in expressing and articulating ideas, and in reacting to other ideas. When Figure 1 is scrutinized, it can be seen that oral as well as written discourse can be processed successfully when the context of the learning environment integrates with

epistemological, individual and cultural aspects. It can be argued, for instance, if we as teacher educators want our learners to be self-reliant constructivist teachers who can tackle with unpredictable issues in the classroom environment, it is indispensable to expose them to social and cultural sensitive pedagogical environments for professional growth. How does one then describe the teacher and learner characteristics in the learning environment?

2.6. Teacher and Student Characteristics in Constructivist Contexts

The traditional concept of a teacher is the one who is standing in front of the classroom either teaching some basic rules or monitoring the class in finishing a task. Students, on the other hand, are the ones sitting at their desks, either listening attentively to the teacher or engaged fully in completing a task in silence. Constructivist classes, opposed to the traditional ones differ much in terms of teacher and student characteristics. Interaction in constructivist learning environment is not limited between the teacher and the students, but rather occurs among all the individuals' diverse cognitive abilities. Constructivist tasks are based on social interactions or active learning tasks. Thus, "noise" becomes unavoidable. Noise rises in active learning environments and noise becomes externalised into "chores of meaningful sharing and expressions of problem-solving" (Marlowe & Page, 1998). Windschitl (2002) argues that when teachers are unaware of students' interests and life experiences, they not only fail to build on local knowledge but essentially avoid their participation in classroom discourse. Active learning empowers learners. to meet the educational needs of teachers and students (Niemi, 1997).

According to Marlowe and Page (1998), effective constructivist teachers provide opportunities for students to help them become successful orators, storytellers, historians, mathematicians, or scientists. Students need to be given the opportunity to do science. This process consists of "doing and reflecting, more doing and reflecting, and then more doing and reflecting" (Marlowe & Page, 1998, p. 27). Then, it can be argued that preservice teacher education students can become great teachers by giving them the opportunity to explore the real teaching environments in their classes.

In higher education, constructivist teachers are challenged to engage students in problem solving and decision making under ill-structured and complex circumstances so that they can explore about the real teaching environments. In stead of telling them what to know about specific content areas, teachers are suggested to engage them in their own active construction. They need to be encouraged to revisit content and problems from different perspectives, and given a variety of different perspectives (Spiro & Jehng, 1990, cited in Grabinger & Dunlop, 1996). However, it is crucial to highlight that constructivism in practice involves phenomena distributed across multiple contexts of teaching. That is, it binds together teachers, students, administrators, parents and community members (Windschitl, 2002).

Providing learning environments in which students take the responsibility of their own learning, does not indicate that they have complete freedom of decision-making based on their learning. The teacher's role is mainly to guide, focus, suggest, facilitate, and evaluate the process to guarantee that the learning process is heading to a relevant and academically productive conclusion. It may be that direct instruction is needed. In such situations the teacher has to determine the limits to direct instruction, and give floor to students (Marlowe & Page, 1998). Consequently, becoming a constructivist teacher who helps learners to search rather than follow is rather challenging, yet, not impossible to attain. Such attainment can be based upon the following principles that are based on in-depth studies and interactions with students (Brooks & Brooks, 1993; Honebein, 1996). Constructivist teachers:

1. Encourage student autonomy and initiative
2. Use authentic data with manipulative, interactive, and physical materials
3. Use cognitive terminology such as create, predict, analyse, in framing tasks
4. Allow students' goal setting, and choice of instructional strategies and content
5. Inquire students' understandings of concepts before sharing their own understandings
6. Encourage students in dialogue both with the teacher and peers
7. Inquire students with questions that utilise their critical thinking and encourage them to ask too
8. Seek elaboration of students' initial responses
9. Engage students in experiences that might engender contradictions to their initial hypothesis
10. Allow wait time after voicing questions both for constructing relationships and metaphors.

The teacher is expected to be prepared to manage the interaction among groups of students. She or he needs to know the problems and its solution, and the common errors, preconceptions, and misconceptions that arise. The teacher helps learners notice attributes of the rich, realistic context that had not been attended to before, and for the possibility of constructive solutions; and guides student interactions as they work cooperatively to solve complex problems that no learner student could manage alone. In order to help student understanding when they as engaged with problem-based activities, teachers can use several strategies that can make components of complex tasks easier by having the teacher guide the problem-solving process. For instance, she or he can approach a problem by coaching, guiding or advising, through providing prompts, probes, or suggestions at varying degrees or explicitness. Overall, the teacher can mediate in providing the necessary guidance for the learners when they are stuck in the zone of proximate development (Windschitl, 2002; Young, Nastasi, & Braumhardt, 1996).

2.7. How to Create Constructivist Environments

A learning environment is a place where people can draw upon resources to make sense out of things and construct meaningful solutions to problems. In order to make an environment constructivist, it implies the importance of meaningful, authentic activities that help the learner to construct understandings and develop skills that are essential to solving problems to foster and support learning (Wilson, 1996). In other words, meaningfulness of tasks is motivating when it is endorsed through solving problems that are genuine to real life situations.

To create environments where students create complex, rich knowledge structures that apply to a variety of problems require contextualised higher level activities. In such learning environments literature reveals that various technologies may function as tools to support classroom learning activities (Wilson, 1996), for instance, computer-based virtual environments may alleviate the spur of knowledge construction. How about classrooms which are still far from reaching the fruits of technology? The teacher is inevitable to hold essential skills to provide the students

with active learning environments. Authenticity of tasks and materials may be one of the solutions.

Another critical point in the making of constructivist learning environments is classroom management. Two components are critical to successfully managing classrooms: engaging students in meaningful and relevant active academic tasks and responding to distracting student behavior. The more engaged students are in relevant activity, the less there will be disruptive student behavior (Marlowe & Page, 1998). Promoting high-level thinking can be enhanced by having students make predictions, interpretations, and hypotheses; and by engaging them in exploratory learning and experimentation. Higher level activities involve, for instance, ambiguous information, controversy and argumentation, judgments, and decision-making (Dunlop and Grabinger, 1996).

Well-managed classrooms are important in establishing healthy learning environments. Managing student behavior has always been a demanding task, but the philosophy behind it has changed during the past decade (Kauffmann et al., 1998). It requires self-questioning and careful reflection. Teachers have a tendency to overlook the fact that what and how they teach can contribute directly to students' behavior that one might find irritating, perplexing, or unacceptable. Constructivist learning environments are concerned with both "what" and "how" one learns. The "what" or outcomes of learning, are principally focused on higher-order outcomes such as problem-solving or the ability to apply knowledge in ill-defined situations. The "how", or procedures of learning in the constructivist environment are typically that of active involvement in learning by solving problems in a real or simulated setting (Kauffmann et al., 1998).

Bloom, Perlmutter and Burrell (1999) explored strategies for managing classroom behavior of children with special needs. They applied a constructivist approach by capitalizing on the social context and social activity in a classroom, and provided strategies for children how to manage their behavior and be responsible members of the community. The authors argue that traditional approaches can be demanding and may further isolate children. Whereas, the constructivist perspective to classroom management is means to actively engage in problem solving, conflict

resolution, and learning to self-manage behavior, which in return provides the child with a sense of belonging.

Active learning contexts encourage students to develop initiative and responsibility for their own learning. They have control over the space, sequence, and monitoring their own work. Active learning challenges the learner to use his or her mental abilities while learning. Active learning environments include constructivist values such as small group collaboration, learner autonomy, generativity, reflectivity, meaningfulness of tasks. Such values are apt to preparing learners for life-long continual learning (Simons, 1997; Stern, 1997). Learners need to be able to apply the information they learn, and teachers need to consider how they can make the need and reason to learn "content apparent. To enhance meaningfulness in learning, Dunlop and Grabinger (1996) suggest creating information rich environments for active learning to make learning meaningful by considering encouragement of student responsibility and decision-making to creating contexts that supports the development of personal autonomy and relatedness

Literature based on constructivist learning theory builds a sound background for instruction aimed at active learning (Simons, 1997). Nevertheless, how to translate theory into practice is little emphasized. Wilson (1997) gives a sampling of alternative instructional strategies that may be utilised in constructivist environments (see Table 2.1).

Table 2.1

Alternative Instructional Strategies

- Simulations - Strategy and role-playing games - Toolkits and phenomena - Multimedia learning environments - Intentional learning environments - Storytelling structures - Case studies	- Socratic dialogues - Coaching and scaffolding - Learning by design - Learn by teaching - Group, cooperative, collaborative learning - Holistic psycho-technologies

Beside the strategies above, Jonassen (1998) gives reference two other strategies: case-based reasoning and cognitive flexibility. Case-based reasoning

strategy engages learners in a story-telling environment so that these may contribute to understanding problems that learners had not experienced before. Similarly, cognitive flexibility entails the telling of stories. Related cases represent complexity in constructivist learning environments that convey perspectives, themes, or interpretations on the problems.

Jonassen (1998) illustrated a model for designing constructivist learning environments, in which he reveals the process of constructing a constructivist learning environment. Briefly, the model begins with, for instance, a problem accompanying various interpretative and intellectual support systems. The learner is expected to interpret and solve the problem. Related cases and information resources support understanding of the problem and suggest possible solutions. Finally, the social/contextual support systems help users to implement the constructivist learning environment. By exploiting the strategies given by Simons (1997) in line with the model provided by Jonassen is likely to contribute much in pedagogical courses that utilize constructivist learning environments.

Colburn (2000) examined the application of constructivist learning theory in science education. From the constructivist viewpoint, he states that science teaching involves trying to help students change their beliefs to be more in line with those held by the scientific community. When hands-on activities become the main foci in science teaching students identify their assumptions, use critical and logical thinking, and consider alternative explanations. Being involved in cooperative learning, through conversing with one and other, and addressing challenging questions facilitate to understand the flaws in their ideas or present alternative viewpoints. In social sciences, on the other hand, students also identify their assumptions, use critical and logical thinking. Nevertheless, there is no specific defined correct answer that should be held in line with the social community.

The quality of interactions, and sharing of diverse point of views determine the conceptual change" in students' beliefs, and enrich their conceptions about the area of interest. Then, evaluating learners with outcome-based tools alone may restrict learning self-regulated constructions. Consequently, regardless of dealing with science or social sciences education, active learning environments should

provide learners with situations in which they can be very much engaged in higher order thinking. Learning activities in those settings are characterized by active engagement, as enquiry, problem solving, and collaboration with others. The teacher is a guide, facilitator, and co-explorer who encourages learners to question, challenge, and formulate their own ideas, opinions, and conclusions. In this situation, "correct" answers and single interpretations are de-emphasized.

2.7.1. Instructional Tools and Learning Styles

Constructivist learning environments are rich contexts that employ diverse instructional strategies that might be used in the classroom. The method of classroom discussions appears to be one of he most used strategies. Research shows that there are multiple conceptions of classroom discussion. For instance, it is used for the purpose of helping learners engage in the subject matter, learn academic content, and encourage verbal interactions. Second, it is used to help learners to learn discuss more effectively (Larson, 2000).

With these perspectives in mind, Larson (2000) examined teachers' thinking about classroom discussion. A sample of six social studies high school teachers participated in the study. Data were collected through in-depth interviews and a think-aloud task, and were analysed using grounded theory's constant comparative-technique. Findings showed that teachers regarded the discussion method as instruction encouraging in building learners' knowledge of the subject matter, and enabling them to be exposed to multiple perspectives on a topic and promoting higher level thinking skills, evaluating data, and making policy decisions. Such an approach also was found to help teachers understand the topic. In this study it was found that teachers use the discussion method both for teaching about the subject matter as well as teaching the skills needed for discussion.

2.7.2. Learning Orientations of Preservice Teachers

In educating prospective teachers, Oosterheert and Vermunt (2001) tried to understand the individual differences in learning to teach. They interviewed 30 student teachers to reveal the components of their learning. Mainly five orientations to learning to teach were discerned. The first one is the classical gap between theory and practice. When student teachers were presented theory without reference to its representation in teaching, they had difficulty in making connection with practice, Second, assessment standards were less coercive than in academic settings. Third, the impact of meaningful learning in learning to teach might imply the risk of reconceptualisation. Fourth, changing little of the classroom reality might generate more changes. Fifth, reconceptualisation of prior knowledge provided with fundamental implications for daily personal functioning. In conclusion, the authors found that the student teachers in their study were not directed at changing and developing their existing frame of reference, and the learning environment that they were exposed to did not much tend to challenge their learning habits in a productive way. In order to prepare prospective teachers for lifelong leaning, Oosterheert and Vermunt (2001) suggest that they need to develop the ability and habit to reconsider their existing orientations and how to construct knowledge on their own accord. However, this provides with implications for teacher educators on the grounds that they need to grow awareness of the reality of learning to teach, and the knowledge and skills to effectively educate different learners.

Based on the above study, Oosterheert, Vermunt and Denessen (2002) developed an instrument to assess orientations to learning to teach at a larger scale. Participants were 169 secondary student teachers from three institutes. All three programs had adopted an initial in-service model of learning to teach. The authors identified cognitive, regulative, and affective aspects of student teachers' learning. They found that student teachers explicitly stated that engagement with constructivist activities was important, but required for guidance and help from others during this process. The authors suggest that a learning environment with a strong focus on knowledge construction and close links between conceptual information and practice

may be sufficiently strong to push students with a more open reproduction orientation towards a closed orientation.

Oosterheert et al. (2002) highlighted that it is difficult to change teachers' orientations toward teaching. They emphasized that this change cannot occur until teachers are prepared to change the nature of their own belief systems. Similarly, this study implied that student teachers did not succeed in knowledge construction beyond their own existing frame of reference, despite the innovative educational contexts they are exposed to.

Another study that examined students' differing approaches to learning was the qualitative study conducted by Campbell and her colleagues (2001). The purpose of this study was to understand whether students with differing approaches to learning view the same learning environment differently, and whether some learning environments influence students to perceive learning differently from those more typically generated by their current approaches to learning. Data were collected from 490 students who completed a written questionnaire, and interview data from 94 students. Findings indicated that students with deep approaches to learning generally demonstrated a more sophisticated understanding of the learning opportunities offered to them than to students with surface approaches.

Students with deep approaches took more active role in their own learning by using a greater variety of methods, while students with surface approaches that tended to focus more narrowly on repetition and reproduction. While the former could close the gap between theory and practice easily, the latter failed to understand the relationship and could not successfully facilitate the learning of others. In contexts where teachers adopted a combination of student-centered active learning activities, and teacher-directed transmission of information, students with deep approaches to learning recognized the learning potential of constructivist elements of the class. On the contrary, students with surface approaches lacked this understanding, they remained focused on receiving information through transmission and reproduction. Such a finding implies that one must recognize that students learn differently, and at different rates. This study suggests that students need to be taught

the skills and shown explicitly how to learn from a variety of active learning experiences that include collaborative learning and group discussion.

Literature shows evidence that cooperative efforts to competitive efforts on problem solving create a difference in the learning process (Qin, Johnson, & Johnson, 1995). Qin et al. examined 46 studies that were published between the years 1929 and 1993 to explore whether cooperation promotes higher or lower quality individual problem-solving than doing competition. The authors classified the type of studies under four headings: linguistic, nonlinguistic, well-defined, and ill-defined problem-solving tasks. They found that members of cooperative teams outperformed individuals competing with each other on all four types of problem solving. An interesting finding was that cooperation on nonlinguistic problems was better than on linguistic problems. In other words, cooperative groups were found to better cope with complex problems than did competitors work alone. However, the authors question under what circumstances competition might facilitate learning and how effectively do cooperative groups approach problems and teach their members how to solve them.

2.8. Assessment in Constructivist Environments

ZDP is fraught with implications for assessment and teaching. The former deals with alternative assessment such as dynamic and learning potential assessment. The main purpose for these approaches is to provide the teacher with information about the level of support the student needs by systematically giving prompts. This information is related to planning instructional groupings, learning tasks, peer tutoring, and as such. Obviously, the assessment relates to teaching, which is the second implication. The learning environment should be arranged as such that the learner can receive support from either a peer or the teacher so that the ZPD in the learner can function properly (Woolfolk, 2001). For the smooth functioning of the learning, methods such as scaffolding sometimes used interchangeably with ZPD and anchored teaching are suggested. In anchored instruction, students define the problem, identify resources, set priorities, and explore alternative solutions _ the

same skills and abilities that are required during realistic, outside-of-the-classroom problem solving and decision making activities (Dunlop & Grabinger, 1996).

The main purpose of interactions is to facilitate learning. The more advantaged participant gauges the preexisting skills and the required skills for instruction, and divides the tasks into manageable components. This type of active and constantly changing collaboration allows for the development of culturally appropriate and relevant knowledge and skills so that cognitive learning may occur (Garton, 1992). Thus, ZPD is the intervention that occurs in a particular time that the child cannot solve a problem independently, but is likely to succeed under the guidance or collaboration with a more advantaged participant to free the road when congested.

The ZPD or "the measure of learning potential" (Garton, 1992, p. 95), implies the importance of the social environment and the support and assistance it can offer for development. It encompasses a degree of collaboration between participants in the social interaction towards a goal that is set. In reaching the goal intersubjectivity is allowed. In other words, while the child is guided and supported to accomplish a solution, it learns how to achieve mutuality and intersubjectivity. The main purpose of interactions is to facilitate learning. The more advantaged participant gauges the preexisting skills and the required skills for instruction, and divides the tasks into manageable components. This type of active and constantly changing collaboration allows for the development of culturally appropriate and relevant knowledge and skills so that cognitive learning may occur (Garton, 1992). Thus, ZPD is the intervention that occurs in a particular time that the child cannot solve a problem independently with a more competent individual in the subject matter.

For the smooth functioning of the learning, methods such as scaffolding, which is sometimes used interchangeably with ZPD, and anchored teaching are suggested. In anchored instruction, students define the problem, identify resources, set priorities, and explore alternative solutions - the same skills and abilities that are required during realistic, outside-of-the-classroom problem solving and decision making activities (Dunlop and Grabinger, 1996).

Constructivists see cooperative learning and cooperative problem solving groups as facilitators to generative learning. Working with peers helps students refine their knowledge through discussion, structured controversy, and reciprocal teaching. Then, students become more likely to take risks required tackling complex, ill-structured, authentic problems when they have the support of others in the cooperative group. Consequently, they may achieve goals that they may otherwise not achieve alone. Anchored instruction does not indicate that there is pure reflection of actual situation. The maturity and the ability of learners need to be considered. The role of the teacher is contingent on how much complexity is needed to make learning activities meaningful. Students are expected to recognize the nature of a problem, formulate a means to solve it, and locate relevant data from events and details of the story (Dunlop & Grabinger, 1996; Keirns, 1999). Scaffolding, provides means for the teacher to help the learner acquire missing knowledge or skill before undertaking the tasks which require them. The teacher is expected to provide the learner with a variety of tasks and engage him or her in a real-life apprenticeship training (Keirns, 1999).

Woolfolk (1998) suggests teachers, for instance, to challenge students to seek help when they are really desperate, to provide them with access to powerful tools that support their thinking, and to capitalise instruction on dialogue and group learning as ways of scaffolding. One considers then scaffolding in higher education, or teacher education, as an interactive process that occurs between the more experienced and less experienced person. The main purpose for these approaches is to provide the teacher with information about the level of support the student needs by systematically giving prompts. This information relates to planning instructional groupings, learning tasks, peer tutoring, and as such. Obviously, the assessment relates to teaching, which yields to constructivist learning.

Reeves and Okey (1996) point out that the current popularity of alternative assessment reflects deep rooted frustration with traditional approaches to assessment as well as the desire to expand its power to determine the attainment of higher order educational goals. In reality, both traditional and alternative assessment of students' performance should require an understanding of how a particular student came into the learning process, included their cultural background, personal learning style and

what they accomplished in relative terms while engaged in the learning process (Simmons, 1994, cited in Osberg, 1998). Reflection gains an important role in constructivist approaches to learning to involve the aspects mentioned above. Reflection helps to judge the work students deal with. Documentation such as writing reflective diaries can be one way to provide floor for reflection upon the process.

Constructivist assessment deals with the process rather than the outcome. It is the performance of the student that provides evidence of how they construct meaning through corresponding in speech or symbolic written language. Lin, Baker and Dunbar (1991, cited in Reeves & Okey, 1996) list the following attributes for performance assessment. It focuses on performance assessment; engages higher order thinking and problem-solving skills; stimulates a range of active responses; involves challenging tasks that require multiple steps; requires significant commitments of student time and effort.

In constructivist learning environments, essay-type exams and term papers are favored over standardized tests because rationality is not only better trained through these means, but "evaluation should ideally be tuned to equally rather than quantity" (Gergen, 1994, p. 19). The fidelity of an assessment is of utmost important. Doubtless, the ownership of a task is a major factor in strengthening the authenticity of an assessment. Critics of authentic assessment complain that the knowledge and skills measured via this approach do not permit easy comparisons among students and that these assessments lack generalizability to other contexts. Thus, reliability is a critical issue in performance assessment. Portfolio assessment, for instance, focuses on process as well as product. Although they are argued to be a good way to show students their achievement (Ediger, 2000), they indicate the low inter-rater reliability.

Proponents of authentic assessment seek to estimate learning within specific contexts that approximate the ill-defined, uncontrollable aspects of the real world in which the much vaunted generalizability of standardized tests may have little relevance (Parsons, 1998; Reeves & Okey, 1996). Dutt-Doner and Gilman (1998) suggest that the effectiveness of authentic assessments depends on clarity of the criteria set. Thus, arbitrary or not clearly defined evaluation procedures may have disruptive effects. Authentic assessment is essential to understand how culture,

experience, readiness, and context influence on how people grow, learn, and develop. It helps teachers to understand and capitalize upon student thinking in order to manage a process of knowledge construction (Darling-Hammond & Snyder, 2000).

Performance based evaluation suggests students to construct evaluation criteria for themselves (Anderson & Bachor, 1998). Since dialogue is a critical aspect in constructivist environments, criteria for performance assessment should be clarified and clearly stated through the interactions or negotiations between the teacher and the students to utilise it successfully in constructivist learning environments. Reeves and Okey (1996) suggest the conflict be resolved before assessment can progress in step with the movement toward the establishments in mainstream educational contexts.

Brooks and Brooks (1999) complain that students in the United States are losing out on instructional practices that foster meaningful learning in preparation for state assessment. The authors reveal that foundations of schooling need to be reconsidered if practice is going to be based on understandings of learners' needs. Practices that are designed to prepare students for tests clearly are stated not to foster deep learning which students apply to new situations, and these practices limit student learning. It is crucial that students are provided with opportunities to construct meaning. Then, another emergent issue is whether the instruction style selected correlates with the goals of the schools. For instance, there is a common belief that lecturing type of traditional methods is effective for short term goals like achievement in national standardized tests. Consequently, one wonders how an achievement test as such may help understand the difference in learner achievement and retention of knowledge based on different epistemological approaches.

In sum, assessing students' knowledge in constructivist classrooms are as rich and interpretive as the learning activities themselves. This is especially due to the fact that they are mostly embedded in the learning activities (Windschitl, 2002). Earlier it was stated that the problem-solving tasks in social science did not have on particular correct answer. Then, if teacher education wants to prepare prospective teachers for the future requirements of schooling, they might attempt to assess them with the innovative approaches and examine their impact on student learning.

Portfolios provide evidence of one's thinking, learning, and performance. As such preservice teacher education programs are increasingly using portfolios as means for aggregating and integrating learning experiences, and assessing students' readiness to assume the responsibility of teaching. Besides the many positive assets of authentic assessment, there are some flaws that need to be dealt with. It requires the time and expertise of the individuals in the teacher education case, for instance, school-based educators, college-based educators, and prospective educators need to work closely together to develop and discuss practice over time (Darling-Hammond & Snyder, 2000).

Richards (1996) described a portfolio as purposeful collection of learners' work that demonstrates to its audience their efforts, progress, and achievements in any given area. Besides being a collection of documents, portfolios are tangible evidence of the wide range of knowledge, dispositions, and skills that the learner possesses as a prospective professional. These documents are self-reflected and autonomous (Campell et al., 1997).

Portfolio assessment elicits higher order thinking by working on items that learners consider as essential rather than working on pre-determined tasks. Since learners relate the options they put in their portfolios to classroom learning it, entails authentic assessment, which is often based on performance. During such processes the learners are to demonstrate their knowledge skills, or competencies in whatever way they find appropriate. The primary value of portfolios is doubtless in the assessment of learners' achievement. For instance, in the professional development of prospective teachers, portfolios may expose much insight related to their educational growth (Anderson and Bachor, 1998).

Forgette-Giroux and Marielle (2000) highlighted possible relationships between input and process variables and resulting organizational issues when a generic content selection framework is included in portfolio assessment. This strategy suggested the collection of entries along with five learning dimensions of competency: cognitive, affective, behavioral, metacognitive and developmental. The authors examined how often teachers (N=12) used portfolios during the week, what

responsibilities learners had toward their portfolios, whether portfolios were used within or across subjects, and what management issues were considered for assessment purposes. They found that portfolio assessment involves temporal, spatial, human, and contextual organizations.

In another study, Phillip (1999) focused on the use of report of action research on portfolios as a way of assessing and reporting in schools. This study suggested some change toward better portfolios. One of the issues the researcher changed was providing the learners with ownership of portfolios. In other words, instead of telling the students what items to put, like Forgette-Giroux and Marielle (2000) suggest they should select samples of work they wish to include and to comment on. The next was adapting a philosophical base of portfolios and an outcomes approach to reporting rather than favoring traditional assessment and reporting strategies. Thus, in this study portfolio assessment was means to kindly discriminate the traditional way of assessment and introduce authentic assessment in a rather progressivist way. Actually, both studies mentioned above underscore a critical issue, which is the grading of learner performance.

Methods of increasing the accuracy and consistency of portfolio scoring have been developed (e.g., holistic scoring, primary training, anchor papers, and rubrics) to increase the reliability of this technique; however, there have always been concerns that this method of assessing student performance is somehow less reliable than some more established techniques (Dutt-Doner & Gilman, 1998; Parsons, 1998). Therefore, it is essential that the lecturer makes explicit how students will be evaluated in advance or by interacting with learners they can solve the problem.

Dutt-Doner and Gilman (1998) conducted a study with 621 university students enrolled in courses in secondary and elementary undergraduate teacher preparation classes to understand how students perceived their experience with portfolio evaluations or the advantages and limitations of portfolio evaluation that students have identified. Findings obtained from an open-ended survey questionnaire indicated that the students expressed pride in what they perceived to be their ingenuity in accomplishing their goals. Nevertheless, they were concerned with what to include and how much to include. They reported problems in determining what to

keep and what to abandon. On the other hand, students believed that portfolio assessment was a better method of evaluation for the classes they had completed. They considered that multiple-choice tests did not reflect everything that one had learned. One student even commented that s/he never learned so much from an assignment. The portfolios produced were considered as a valuable asset by students since they could refer to them over and over again whenever they needed to do so.

When the literature related to portfolio assessment is examined, it can be seen that portfolio assessment gains an important place in evaluation. It takes learners as active participants and gives them the responsibility to build upon their previous knowledge in a constructivist way rather than receiving knowledge in a traditional way. Nevertheless, more research needs to be done to obtain more insight on how students from different disciplines perceive portfolio preparation, and how they would like to deal with portfolio implementation. Theory and research suggest more autonomy to the learner, but it is critical to understand how teachers or curriculum planners translate constructivist practices into education programs. The section deals with the use of metaphors in constructivist learning environments.

2.9. Metaphorical Expressions and Constructivism

Metaphors are kernel comparison statements whose primary function in learning is to stimulate active learner-initiated thought processes, and working out the implications of these metaphors will be the principal process of learning (Carroll & Mack, 1999). Vygotsky (2002) views concepts or metaphors as tools that integrate social-cultural and the cognitive actions. Metaphors articulated are not only holding cultural or social meanings, but also display possible effects of the individuals' trajectories (de Guerrero & Villamil, 2002). Social constructivist approach to teaching and learning entails use of language as a social and cultural tool to promote and build on learners' cognitive development. Use of language provides ways of assigning meaning to what individuals encounter visually. As such it enables to broaden or enhance the interpretations of what is seen (Weade & Ernst, 2001).

In the literature of education metaphors are used for multiple purposes. Some reveal that metaphors shape our understanding of classroom practices (Marshall, 2001; Tobin, 2001) and teaching roles (de Guerrero & Villamil, 2002), others view it as a way to describe a social phenomena of the time in which a particular theory is developed (Şimşek, 1997). Metaphors are possible means to illuminate cultural, institutional, and personal constructs (Wallace, 2001). According to Randolph and Evertson (1994) metaphors are used to conceptualize classrooms; and classroom events shape the thinking process by providing frameworks for what is possible in these settings. By trying to match images of learning and images of classroom management, the authors suggest that the work-oriented classroom and learning-oriented classroom differ in the way they are managed. They strongly believe that teacher education programs cannot divorce the discussion of classroom management from the one with content instruction because they see them as interwoven. In other words, such struggles show a shift from obedience to responsibility taking (McLaughlin, 1994) in the metaphorical images. This suggests that images of classroom management in such settings might represent more images of learning rather than controlling.

Martinez, Sauleda and Huber (2001) analysed the reflections of 50 experienced teachers in a course on instructional psychology. Metaphors were achieved in small groups through collaborative work. They found that the majority of these teachers used metaphors that depicted the traditional forms of teaching and learning, whereas only a small group revealed constructivist metaphors. The same course was submitted to 38 teachers with no classroom teaching experience yet. Results showed reverse findings: most novice teachers revealed more constructivist metaphors than did experienced teachers. Such findings provide with implications for teacher educators to implement teaching strategies focusing on collaborative reflection on metaphors as a way to promote an understanding of socially situated nature of learning.

In a study by Ben-Peretz, Mendelson and Kron (2002), the authors found that metaphorical images selected by teachers were context-related. Teachers were asked to choose 7 drawings representing different occupations, which reflected the highest degree of their self-image as a teacher and to explain why they thought so. Most of

the teachers with high-achieving students chose "the conductor" metaphor since it reflects giftedness, harmony, and togetherness. On the other hand, most of the teachers with low achieving students preferred the caring image of "the animal keeper" metaphor. This finding raises the question if teacher candidate's metaphorical images of classroom management would be context-related as well when they are exposed to constructivist learning environments. Mental processes or images are products of the social environment. There is some proven evidence that social constructivist learning environments have a positive impact on student learning. Friere (1971, cited in Oldfather, Bonds, & Bray, 1994) refers to the traditional form of teacher education as the "banking" model that depicts the role of teachers as filling students by making depositis of information that constitute of the right answers, and the student role in this case is to store the deposits. The constructivist for teaching depicts the teaching as a midwife. A midwife's concern is to preserve the student's fragile newborn thought. Midwifes as teachers focus on the students' knowledge rather than their own and contribute when they are needed (Belenky et al., 1987, cited in Oldfather et al., 1994). Although there is growing literature related to the use of metaphors in education, whether teacher candidates' metaphorical images reveal a conceptual change after a constructivist implementation emerges as a need to be examined.

2.10. Constructivist Programs

Instructional designers and instructors can provide students with opportunities to make them more responsible for their own learning in higher education settings. The students need to be enabled to determine what they need to learn through questioning and goal setting: students' self-concept of what they know or do not know should be established by the guidance of the instructor (Grabinger & Dunlop, 1996). Allegedly, this may assume more responsibility in addressing their learning needs during an instructional unit. Constructivist educators strive to provide students with access to information on demand. Such inquiries can be utilised through educational technologies to facilitate access to information. For instance, instructional designers may include integration of multimedia software, and the

Internet and World Wide Web into the curriculum (Osberg, 1997). This may enable students to uncover, discover, and reflect on content and their conceptions of such through inquiry, investigation, research, analysis and evaluation in the context of a problem, critical question, issue, or theme (Marlowe & Page, 1998).

After goal setting, learners need to describe their priorities, instructional tactics, resources, deadlines, and roles in collaborative learning situations, and proposed learning outcomes, including presentation and dissemination of new knowledge and skills where possible. Taking initiative was not easy for learners. Since they had poor experience about such environments earlier, they may select learning strategies that are similar to their earlier experiences. Therefore, teachers need to facilitate such environments by providing learners with options and slowly taking control of their zones of proximal development (Dunlop & Grabinger, 1996).

Learners are actively involved in hands-on learning activities that relate to their interests and that are a little above their current level of competence. To learn concepts, the learner must experience them and socially negotiate their meaning in the authentic contexts that exerts a complex learning environment (Jaramillo, 1996). Vygotsky is considered to encourage students to participate in the classroom with the instructor as rule makers and curricula planners. To develop curricula, teachers must find a middle ground between their decisions towards curricula development and individual student interests. To handle this Vygotsky would suggest that teachers need to devise curricula that direct students along a continuity of experience (Jaramillo, 1996).

A sample curriculum is that of Pankratius and Young (1995). The researchers developed a constructivist curriculum for an introductory course for emergent teachers based on the principles of constructivist theory. The goals of the course were set as such that it provided the learners with ownership of their learning. The goals of the course provided with evidence of self-evaluation in developing professional-ship, and exploring the contexts of schools to make professional judgments that will construct their rationale for teaching.

Another example can be the Interpretation Construction (ICON) Design Model suggested by Black and McClintock (1996). The learning environment created comprised of the following components.

1. Observation: learners make observations of authentic artifacts anchored in authentic situations
2. Interpretation construction: learners construct interpretations of observations and construct arguments for the validity of their interpretations
3. Contextualization: learners access background and contextual materials of various sorts to aid interpretation and argumentation
4. Cognitive apprenticeship: learners serve as apprentices to teachers to master observation, interpretation, and contextualization
5. Multiple interpretations: learners gain cognitive flexibility by being exposed to multiple interpretations

The model above suggests that learners are put in active learning environments, and act as apprentices. Cognitive development occurs through frequent observations, interpretations of observations and finding evidence of their interpretations. In the Science Improvement Curriculum, the constructivist instructional design rests on four phases: engagement, exploration, elaboration, and evaluation. In the engagement phase the learners are motivated to undertake the topic they deal with. Next, in small cohorts, the learners are encouraged to examine the topic, and share their findings with other small groups. After that, learners elaborate on the topic of study, and finally, evaluate what they have learned (Glasson & Lalik, 1993, cited in Lord, 1999).

A similar model is that of Buchanan and Smith (1997). The authors suggest engagement, connection, application and culmination as a four-phase model that could be used to infuse constructivist practice into higher education courses. Engagement is used to assess students' own perceptions so they can connect course material with their personal knowledge and previous experiences. Then, they connect their gathered information and compare their assumptions with scholarly knowledge. Next, learners apply their reconstructed knowledge to important current issues. In other words, they construct their own knowledge out of their understanding of personal experiences, and reflections by others and suggestions by different philosophies. Finally, the learners culminate or synthesize all the information and demonstrate their own understanding of the material. The authors strongly believe

that most teacher educators are aware of the assets of constructivism and suggest the need to broaden teaching approaches to allow for multiple learning styles so that more children can learn.

From the Piagetian developmental perspective, the University of California at Berkeley used Piaget's theory and research as a base in teacher education. The program known as "Developmental Teacher Education" (DTE) lasts as a two-year graduate teacher education program. The program was designed to evaluate the hypothesis that elementary school learning and teaching can be better by utilizing the conceptual core for teacher preparation. In other words, the programs main purpose was to provide teachers with knowledge to better understand and guide the teaching learning process by collaborating and gauging the knowledge of child development with the knowledge of subject matter, and proved successful.

Black and Ammon (1992) evaluated the above program and found that the notion that teacher's pedagogical understandings develop through sequential qualitatively different levels. They found that teacher development showed a tendency from more behaviorist conceptions to constructivist conceptions. In other words, at first the teachers tell or show and let the students practice a particular learning material. However, when the development process proceeds, the teacher becomes one who creates environments that call for students' self-directed learning.

The teachers who are DTR graduates were found to use smaller group instruction, heterogeneous grouping; integrated a whole language and literature-based approach to reading compared to traditional teachers. The authors claim that such findings contradicts with the idea that graduates of teacher education programs, and quickly forget or abandon what they have been taught during the teacher education program. Such a finding is important to our knowledge of teacher education, and provides the literature with a need that teacher education programs need to model the learning teaching and learning process by creating such constructivists classrooms. In the proceeding sections this issue is elaborated on.

Mayer (1997) suggested four components for a constructivist program that focuses on problem-solving skills. Regarding "what" to teach, problem-solving curriculum should emphasize learning smaller component skills and techniques for

coordinating learners. Second, regarding "how" to teach, a problem-solving curriculum should emphasize the methods used for thinking about academic tasks. In such situation learners engage in discussion of how to solve realistic academic problems. Third, regarding "where" to teach, a constructivist problem-solving curriculum should be integrated into every subject area. Finally, regarding "when" to teach, the program should enable the learners to work on interesting academic tasks that include higher-order thinking.

It is essential that individuals learn to think critically, analyse, and synthesize information to solve technical, social, economic, political, and scientific problems for successful and fulfilling participation in a modern, competitive society. Nevertheless, it is difficult to give people the individual attention they need to develop critical thinking and problem solving skills in a typical higher education classroom (Dunlop & Grabinger, 1996). Different models of constructivist programs tend to solve this problem by focusing on active learning. As such, do teachers graduated from constructivists programs act in the way they have learned? Does constructivist teacher education provide a difference in achievement regarding both student learning and teacher learning? Does the school culture interfere with teaching practices? To find the answers, the following sections provide reviews of several research studies that may enlighten us with the answers we seek.

2.11. Research on Constructivist Education

There is no unified conception of constructivist teacher education in the literature revealed. However, from a constructivist perspective there is a common belief that teachers need to know that knowledge is constructed by individuals through social interactions, and that teachers need to make sense of their learning within a sociohistorical perspective so that they can help their learners find meaning in what they learn (Tatto, 1999). In other words, the teachers need to learn in the way that they are expected to help their learners learn. This section gives examples drawn from theory and research on how to deal with the development and education of teachers and learners.

Recent research on constructivism abounds in instructional applications both within classrooms and teacher education contexts. Pankratius and Young (1995) referred to the use of constructivist learning principles in the formation of a teaching methodology approach. They argued that if teacher education programs did not recognize and address their prior knowledge, preservice teachers experience little or no change in their values and beliefs about teaching. Regarding this view an introductory course was developed grounded in constructivist learning principles. In the course, the students were encouraged to examine and evaluate their beliefs, attitudes, and knowledge about teaching. Active student involvement was seen of paramount significance since learning first-hand the principles of active learning in the course. Students were empowered with learning how to learn and beliefs about teaching to the course, which in return provided them with an opportunity to change (Pankratius and Young, 1995). In such case, teacher education programs can be argued to foster new learning through having teacher candicates hands on practice during their education.

Jadallah (2000) suggested a planning process that integrates cognitive and social constructivism in conducting social studies so that the abstract constructivist ideas of knowledge and experience are more openly defined through curriculum making and instructional planning. On the other hand, Windschitl (1999) referred to the increasing popularity of constructivist learning by emphasizing its effects on teachers, including increased demand on subject-matter understanding. The researcher asserts that teachers must continually struggle to develop a new, well-articulated rationale for instruction decisions. Such shift, the author argues, cannot be realised by utilising previous teaching or learning. Consequently, the teachers themselves should find ways to challenge the new classroom dynamics of diverse social and cultural contexts.

Mason (2001) provided evidence that reasoning and arguing collaboratively on different beliefs and ideas as well as individual writing to express and reflect and communicate own conceptions stimulated and sustained metaconceptual awareness in a class of fourth-graders in a science domain. Talks were realised in small and large group discussions. On the other hand, writing took place individually and was undertaken at different times with different purposes. Findings revealed that

reasoning and arguing collaboratively on different beliefs and ideas, as well as individual writing to express, clarify, reflect and reason on, and communicate own conceptions and explanations were valued as fruitful tools in the knowledge revision process. Tynjälä (1998) found that writing in a constructivist learning environment influenced learners at university levels not only in the accumulation of new information but also in terms of development of their thinking and communication skills. In other words, it enhanced creative thinking.

Young, Nastasi and Braumhardt (1996) observed a conceptual change in classroom teaching regarding the nature of learning after implementing a constructivist design in a constructivist way. The research attempted to establish an environment that would foster problem-solving interactions and assess the nature of the interactions that occurred. The study lasted 3 months to engage students in anchored instruction, using the problem-solving videodisch series "Jasper." Students were immersed into a complex, realistic problem-solving situation. Students had to solve three problems in three months. Each problem presented a realistic situation in which middle school mathematics, planning, information-finding, and cooperative group solving could be used to solve an everyday kind of problems. The goal was to emphasize problem solving and other higher order thinking skills such as planning for complexity of information finding across distributed sources along with certain math topics. In other words, the authors sought ways to create authentic and meaningful learning environments, and managed to integrate experiences in life with that of schooling.

Smerdon and Burkam (1999) argued that although many reformers advocate a move away from traditional, teacher-centered, direct instruction toward student-centered constructivist teaching that focuses on exploration and experimentation, the students of average social and academic status appear to be the forgotten majority with respect to constructivist instruction. The authors offered implications for educational policy and social equity in high school science. They found that constructivist teaching was more provided for less able students and lower-level science course and was especially submitted to males. The authors argue that the reality behind this founding is grounded in the fact that teachers do not employ instruction effectively.

Buehrer (2000) conducted a study in which he suggested constructivist learning theory as an alternative pedagogical paradigm for aural skills. He attempted to give evidence of how an alternative curricular model in the form of a mock textbook might fit into a larger undergraduate music theory curriculum. Also, issues related to the implementation of this constructivist approach to aural skills instruction such as assessment techniques, and changing roles of instructors and students were emphasized as change after a implementing constructivist curriculum.

An exploratory investigation was conducted by Tenenbaum et al. (2001). The authors tried to identify characteristics of constructivism and their presence in face-to-face and open distance learning environments. First, a six-week discussion through and electronic mailing list was carried out to explore the concept of constructivism, the process underlying constructivist learning and its facilitation. Secondly, a questionnaire was administered to ascertain the presence of constructivist principles in formal higher education instructional activities. Constructivist teaching and learning components such as arguments, discussions, debates; conceptual conflicts and dilemmas; sharing ideas with others; materials and measure targeted toward solutions; reflections and concept investigation; meeting student needs; and making meaning of real life examples. Findings revealed that the components above were not sufficiently present in any of the settings which were investigated, despite the positive intentions that instructional designers had in their planning phase. This finding may imply that teacher educators and students have different conceptions of the instructional approach used.

Beside mainstream education in lower levels of schools, constructivism has become more and more popular in mass higher education. Considering the constructivist values that suggest personal control, authentic learning contexts, diverse personal interactions and collaboration, Bostock (1998) examined how a nonscience undergraduate program provided its learners a constructivist curriculum using the World Wide Web pages, email messages, and videos as educational tools through a case study design. The course was designed by giving centralizing rich environments for active learning. Face to face interactions with the instructors were limited. The components of the course design consisted of: authentic assessment,

student responsibility and ownership, generative learning strategies, authentic learning contexts, and cooperative support from peers.

Bostock (1998) found that different students acted differently to constructivist learning environments. While some enjoyed the challenges of the context, others wanted more objectivist approaches to learning. Regarding authentic assessment, learners exerted a positive tendency to prefer coursework over examination. One limitation, though, was that the learners did not know what was exactly required from them. Learners taking ownership of their learning did not change much before and after the course. For instance, only 60% of the learners were satisfied to write about their learning, whereas the rest were not. Difficulties about the authentic learning contexts were also more technical ones such as slow access to the Internet. Also, methods of encouraging cooperation without coercion were needed to endorse collaboration.

Simmons (1999) devised a teaching experiment on a unit of mathematics education as a part of a graduate program. It was designed on line with constructivist principles and it based on the assumptions that changes in the way teachers operated would come about more readily if teachers were exposed to a number of different experiences related to mathematics education that included problem-solving episodes mentioned both by radical and social constructionists, and whether primary teachers could identify aspects of practice to begin a process of restructuring. Teachers experienced their own construction of knowledge independently through collective work over a ten-week period. Their development was also realized through growing awareness of some theoretical underpinning, a metacognition of scrutinizing their learning experiences and examining ways of relating their new learning into their classrooms. Simmons found some evidence in teachers' beliefs about the nature of mathematics and the subsequent changes in classroom practice and expectations of children's learning with respect to creating kinds of interactions that are fundamental to constructivist teaching. Constructivist teacher education can help teachers develop a theoretically grounded view of learning only on the grounds that it helps them achieve sense-making in practice (Tatto, 1998). In a nutshell, any learning should have meaning and easily be related to the rationale behind the conduct in teacher education programs.

2.11.1. Research on Lower Levels of Schooling and Teacher Training

A major problem for teacher educators and their learners is that those entering the programs do not have the mathematical and pedagogical knowledge necessary to position themselves as teachers opposed to the traditional ways of teaching. Preservice teachers must be encouraged and supported in learning to develop skills of questioning to keep scientific conversation alive and do not cut off inquiry (Klein, 2001). Klein suggests that the environment in pre-service teacher education needs to be supportive by appealing to "hearts and minds."

To enhance sense-making in cognitive and affective terms, Klein's desire was to provide an enjoyable experience of learning mathematics and how to teach it well for students. She constructed collaborative environments as well as contexts that required learner autonomy. Moreover, she required reflective diaries from her learners, and questioned whether the learners actually thought like they had written. She found that learners hint at power relationships where they are unable to state what they really think, and seem to have a tendency to use the third person in such situations. Klein suggests that teachers need to recognize how the discourse of mathematics, in this case, operates to disenfranchise learners, how they themselves feel when they are exposed to such operations, and how the use of semiotics, practices or activities might be converted to empower for more learners. As such it is hoped that the experiences of teachers or preservice teachers as learners may lead to change in their own professional classroom practices as well.

Ladd (2000) compared teacher education programs and graduates' perceptions of experiences. Seven issues emerged from the data collected. Ranging from requirements for certification to field experiences and student teaching. The issues that were reported of highest concern for beginning teachers and respective principals was identified as classroom management. Principals also reported a concern regarding dealing with and providing instruction for diverse and special students. The author suggests that alumni involvement in program reform of teacher preparation can provide valuable information for improvement of educational practices. Consequently, emerging problems like classroom management can be discussed by bringing novice graduates (or alumni) and prospective teachers in the

teacher education programs. However, this requires a powerful school-university partnership.

Another comparative study is that of Yıldırım et al. (2001). The authors constructed a constructivist environment in which learners were subjected to hypermedia environments compared to traditional learning instruction in secondary biology education. Student learning outcomes were measured through a multiple-choice test. The authors found that learner outcomes were similar in their post-test results. Ultimately, they conducted a retention test to measure retention between both groups. The authors found that hypermedia instruction showed favorable significant mean difference in the retention test scores when they were compared to the scores students obtained through traditional learning instruction. The pretest scores caused the difference. Such finding raises the question of how such contexts might influence student learning in higher levels of education, specifically in teacher education.

The study by Anderson and Piazza (1996) showed evidence of how the constructivist philosophies of the authors implemented in the mathematics classrooms changed the instruction of university mathematics education classrooms. The authors randomly selected 50 student journals from a group of 154. Based on the literature they examined aspects that indicated students' commitment to a constructivist philosophy. The themes that emerged were strong constructivist commitment; valuing some elements of constructivism: lacking evidence of commitment to constructivism; and lack of evidence of constructivism. They underscore that beliefs about constructivism emerge from experience and reflection. Therefore, they suggest that preservice teachers have to experience constructivist environments and reflect upon them. As such it will promote teacher and learner autonomy.

Joia (2002) assessed a socio-constructivist model for training K-12 teachers in Brazil, in the use of Informatics in education from a summative perspective. A case study design including qualitative and quantitative data collection methods was used. The course provided the teachers with two complementary modules: face-to-face; and distance-based. The rationale of the study held an interactive and problem-solving methodology, and led to a central axis based on the development of

interdisciplinary projects. Before the course, the teachers were measured as traditional or instructivist and teacher-centered. This study showed that after the socio-constructivist course, teachers raised consciousness of the need to change their pedagogical practices, but still needed time to change it. The author found that teachers complained about not being provided with the right answer, and the lack of guidelines during class work. Consequently, more participative approach to teacher training was suggested to allow the schools to influence for a better organizational structure and strategy. Another implication is that the teachers hold dispositions about learning and teaching, and may expect the same approach from teacher trainers.

As an emergent need to bring about change in rural schools, Tatto (1998) examined the challenges facing constructivist approaches to educate rural teachers utilising an innovative program in Mexico under the project PARE. PARE was a part of a comprehensive program that aimed at improving the quality of education in Mexico. PARE's teacher education component is based on the Piagetian model for teaching, and offers a constructivist philosophy that attempts to offer in-service training to teachers and administrators working at elementary levels. She found that the most challenging areas were challenges in the program's theory; in the program's implementation; and continuation. Although the program was utilizing constructivist theory to challenge teaching and learning traditions in Mexico it fell short in implementing a true constructivist approach. The reasons behind it were attributed to the ingrained traditions of control and centralized hierarchy authority, and a disregard for the complexity of educational change processes might have caused the superficial implementation of the teacher education reform. As such it introduced confusion and relativism among both teachers and administrators. Ultimately, PARE threatened the success and integrity of the constructivist approach. Such finding suggests that the culture or the cultural tools within a system needs to be carefully examined. rather than introducing change in a snapshot, such steps need to be carefully planned and schools need to be well-informed and provided with pace to adapt and construct knowledge to deal with constructivist education.

Ziegler (2000) examined characteristics of teachers' perceptions, and factors influencing teachers' perceptions of constructivist teaching, learning, and

supervision; relationships of teachers' perceptions of constructivist teaching, learning, and supervisory practice; and the influence of constructivist practices on student math achievement. He found that different dimensions of constructivist teaching, learning, and supervisory practices have differing effects on student achievement (Ziegler, 2000). Consequently, the results found confirm research that supports constructivist learning practices positively.

Julius (2001) attempted to investigate how constructivism is evidenced in the beliefs, perceptions, and practices of middle level teachers, who were considered to be effective teachers. The results show evidence of correlation between the beliefs and practices found in constructivism, and what effective middle level teachers believe and support as appropriate and effective middle level learning and teaching environments. Although constructivists are aware of the role of both student and teacher in affecting cognitive development in students, such awareness was little defined by the study group. It is found that certain discrepancies emerged, and cognitive structuring was utilized.

The NASA Classroom of the Future (TM) sponsored a training course to help teachers learn to use computer-based educational tools and explore constructivist instructional approaches. The purpose was that such approach might be an environment that would foster rapid changes in the teachers' epistemological beliefs. Pretest-posttest differences on an epistemological inventory indicated that teachers changed three out of four factors related to constructivist teaching theories. This study suggested that constructivist approaches to training may promote epistemological change among teachers. Upon these findings one might raise the question whether this can be positive for teacher educators as well.

2.11.2. Research on Preservice Teacher Education

Although much has been said that constructivist education has positive impact on student learning, there are few studies that deal with this theory in relation to preservice teachers' understanding of teaching (Samaras & Gismondi, 1998). Tenenbaum et al. (2001) attempted to identify characteristics of constructivism and

their presence in face-to-face and open-distance learning environments. Findings indicated that constructivist teaching and learning components were not sufficiently present in any of the settings investigated despite the positive intentions that instructional designers had in their planning phase. Thus, teachers' conceptions about constructivist classroom environments may not be clear and overall need to be made explicit.

Buchanan and Smith (1997) say that most of teacher educators were taught and were successful learners in classrooms that used traditional instructional techniques. They do believe that those teacher educators have constructed their understanding of constructivism without participating in constructivist classrooms and it is, therefore, why that their educational history makes it difficult for them to model constructivism. What is more, Kaufman (1996) finds it unrealistic to expect teachers to initiate constructivist settings in schools when their prior educational experiences, including their teacher education programs, did not exert constructivist practices. For constructivist practices to emerge in schools, the author suggests, to engage teacher candidates in interdisciplinary exploration, collaborative endeavors, fieldwork opportunities, self-observation, evaluation and reflection. In time teacher education programs are expected to evolve as "teacher educators and teacher candidates engage in a learning cycle that brings together new initiatives in response to emerging needs and leads to mutual growth and development" (Kaufman, 1996, p. 42). Through extensive questioning, reflecting, and constructing will the constructivist paradigm shift in education ever take root in teacher preparation efforts (Fosnot, 1996).

Samaras and Gismondi (1998) examined the Vygotskian theory in relation to preservice teachers' understanding of teaching. The program they studied was a reflective teacher education program that aimed at broadening and deepening preservice teachers' thinking about teaching and learning. Preservice teachers were required to question practice and relate theory to experience-based knowledge to continuously improve practice. A case study design was used and the primary data sources were learners' final self-evaluation of their units; planning papers; field progress reports; self-evaluations, and interviews with preservice and cooperating schools. Findings showed that situated learning may benefit preservice teachers'

understanding of planning, perspective taking, social negotiation, and sense of ownership. The Vygotskian planned program enabled preservice teachers to experience authentic teaching with task demands shared between and among peers and their cooperating teachers. However, placing preservice teachers in cohorts did not necessarily imply a Vygotskian approach, they assert that it involves a process of joint activity. The authors also found that while there was much emphasis on the learning and support of preservice teachers, there was less on the learning of cooperating teachers, and to examine the school environment more in depth. They concluded that practicum experiences need to provide formative assessment within preservice teachers' ZPD. The authors underscore that preservice teacher education programs should prepare their learners' collaboration and coping with difficult situations, and negotiation and reflection with colleagues who hold differing perspectives.

A comparative study was conducted by Tynjälä (1998) at higher education level. The constructivist group who studied the given course book with the help of writing assignments; whereas, the control group just read the books on their own, attended lectures and took an examination. In this study, the author's aim was to measure learning outcomes as measured by a traditional examination in which students had to answer two questions. The constructivist group did take the exam, but were not graded for it, while the control group was graded. The author found that learners subjected to constructivist learning environment seemed to produce higher-level learning outcomes more efficiently than traditional teaching. This study included a traditional essay-type question in comparing learning outcomes. Although students subjected to constructivist learning showed greater levels of higher order thinking in their responses, learner outcomes were evaluated from a holistic perspective.

Stewart-Wells (2000) investigated student teacher and teacher educator perceptions of their teacher education programs and the role classroom management plays or should play in preservice teacher education. Both qualitative and quantitative methods were employed to collect data. Results revealed that classroom management was listed as top priority. Also a strong desire was reflected to learn more from classroom management strategies. Student teachers revealed that being

given more "hands-on" real life stories on how to resolve classroom management issues before, during, and after problems in this area emerge. This study may provide with implications for investigating future challenges of a constructivist classroom management course.

Jadallah (1996) investigated the reflective insights preservice teachers constructed about their curriculum and instructional practices during a teacher education course and related field experiences. The preservice course included reflective analysis of teaching and learning and was followed by two-hour seminars that involved preservice teachers in examining and evaluating the implication curriculum and instructional decisions have for student learning. Field observations and experiences became the substance for seminar discussions. Through a case study design, Jadallah found that pre-service teachers' conceptual understanding of teaching methods was limited to prescriptive operational definitions. It was found that the pre-service teachers had difficulty to act in a constructivist way: e.g., they had difficulty in identifying and explaining how specific types of questions could elicit different levels of thinking to accomplish higher order thinking, checking for understanding, relating to students' past experiences, and making learning meaningful and relevant. The author found that pre-service teachers had learned terminology but could not develop a deep understanding of the learning principles that entailed these specific concepts. Also, some developed a conceptual understanding of a teaching method beyond a prescriptive operational definition. In a way, they constructed their understanding of teaching and learning by the way they interpreted their experiences. Thus, preservice teachers' as learners are crucial in developing an understanding of how to create constructivist learning environment conducive to higher order thinking.

In another article, Kroll and Laboskey (1996) also argue that teacher educators or preservice programs need to practice constructivist approach to learning and teaching if they want their learners to become agents of change. In this case based research design, the authors wanted to help teachers see themselves, reflect on themselves as learners as they learn to teach and discover the ways in which they learn effectively. As teachers, they wanted them to become involved in the content area that they teach and to understand how people come to learn this content area, as

researchers, to treat their own teaching, and learning and their students' learning as issues for inquiry, constantly questioning their students' needs and learning. Subjects were learners at a one-year graduate teacher education program taking introduction to developmental theory course that focused on Piaget's theory to classroom instruction. Such approach made preservice teachers experience the developmental process.

In order to help preservice teachers construct a view on teaching and learning styles through group activities with similar personality styles, Pankratius (1997) used the Myers-Briggs Type indicator to group learners in preservice teacher education according to their learning styles and examine the results. The groupings used were as follows: Intuitive and thinking, intuiting and feeling, sensing and perceiving, and finally sensing and judging. Participants were 22 teacher candidates. In their first week of the course they were grouped pertaining to the instruments' results. Afterwards, a constructivist intervention including scenarios, case studies, issues analysis, and discussion of group findings took place. The study was mainly qualitative in nature and findings indicated that the grouping variable was a significant learning experience for all learners, and a critical high incident for most, the learners gained a greater awareness of differences in learning styles. Some learners saw cooperative learning from a different perception. Consequently, they critically examined their assumptions, values, and beliefs about teaching and learning styles. The author concludes that constructivist approach to teaching and learning requires that teacher candidates build or restructure their knowledge about teaching so that it makes sense to them. Pankratius (1997) asserts that exposing teacher candidates' attitudes, values, and beliefs to the light of critical inquiry builds teachers who have a sense of learning and how students learn. This study, again suggests providing preservice teachers with constructivist learning environments and help them use their own experiences in the classrooms as reflections for the teaching and learning practices as prospective teachers.

Mallette, Kile, Smith, McKinney and Readence (2000) studied the meanings that preservice teachers constructed about students with learning difficulties. A multiple case study design was used to understand better how they framed their meanings. Results revealed that each preservice stance on meaning was tied to

pedagogy in two ways: when considering reading difficulties, the participants placed an increasingly important role on the supervising teacher; and situated themselves as a teacher within that context. The authors suggest that the importance of designing inquiry-oriented learning environment suggested students be provided with opportunities to explore systematically their developing stances and self-constructed meanings about reading. Apparently, such a finding showed evidence that structuring teacher education programs in ways that challenge the beliefs preservice teachers' possess as they enter into their programs. The experiences of teacher candidates are expected to reflect their future practices.

A qualitative study was conducted by Holt-Reynolds (2000) to explore preservice teachers' beliefs about their role as a teacher just as they were completing a bachelor's degree and prior to experience with a teacher education program or real classrooms as student teachers or interns. Prior to their formal education participants were asked to recall their experiences as readers at home and school. Also, they were asked to define literature; their values of genre and text types; their current theories about critical perspectives; and their current beliefs about the role of a literature teacher. The author found from a participant called Taylor, a pseudonym, that she did not specifically understand constructivist strategies rather she saw the constructivist techniques as ends in themselves. She concluded that the teacher's role ends when she has activated learners, invited them to talk, and engaged them in participation successfully, which indicates that she had a narrow view of being a constructivist teacher. Such finding provides implications for teacher education in terms of showing that practices in their preservice teacher education may not be particularly understood when they start experiencing teaching.

As a part of constructivist learning, self-regulated learning promotes learning autonomy and the development of lifelong learning skills. In the earlier research studies explained, it was found that teacher educators struggled with how to use this approach in their classrooms (Mallette et al., 2000; Pankratious, 1997). So did Tillema and Kremer-Hayon (2002) find similar conclusions about their teaching about self-regulated learning and using it themselves. The authors investigated how teacher educators committed to promoting self-regulated learning in both their students and their own professional development. The study was conducted in a

Dutch and Israeli context. In the Dutch context self-regulated learning has been found to be more presented than the Israeli context. This type of learning is an innovative approach to teaching which calls for other more reflective ways of dealing with students who abandon a delivery stance in teaching. Data were collected through an interview instrument that uncovered teacher educators' perceptions of SRL and attitudes towards SRL, personal experiences as self-regulated learners, dilemmas and problems encountered while teaching according to these principles in their institutions. The authors found that teacher educators faced several dilemmas. First, they found that the dilemmas were connected to their underlying conceptions of teaching and learning, and the demands of the setting where they teach. Their own practices of self-regulated learning did not match with what they taught others to do in order to become self-regulated. The latter findings were more observed in the Dutch context. Consequently they had struggles in how to use the approach themselves as they struggled how to teach their students to use them. In this study again, it can be seen that early experiences interfere with adopting new teaching practices.

A correlational study was conducted by Plourde and Alawiye (2003) to examine the impact of constructivist learning model on elementary preservice teachers' beliefs in reference to their constructivist knowledge and practical application of this knowledge. They found that as student teachers' knowledge about constructivism increased, their belief that they would be able to apply constructivist learning situation increased. However, it is essential that this belief is validated with a longitudinal study by tracking the student teachers' practices.

Keating, Diaz-Greenberg, Baldwin and Thousand (1998) believe that teacher education can be enhanced by using student teachers as researchers. They argue that practicing teachers can provide teacher educators with information on student interaction and classroom environments, and have a broad sampling repertoire due to the amount of field practice they have. Inquiry and reflection are regarded as integral components of course work and field experiences in the action research models they describe. The authors suggest that action research in preservice teaching offers nonprejudiced foundations for regarding appropriate interventions, outcomes and other educational policies. This approach may well-reflect to student teachers' self-

regulated learning during their practice and their way of struggling with the teaching process may provide the teacher educator with implications for his or her own teaching practices.

Kesal (2003) investigated to what extent constructivist classroom characteristics existed in methodology courses in English Language Teaching departments in several preservice teacher education programs in Turkey. She exposed preservice teachers and teacher educators' perceptions about the usefulness of constructivist teaching and learning environments. Kesal found that preservice teachers as well as the teacher educators found the methods courses constructivist; however, they differed in their perceptions. While both held constructivist conceptions of learning, preservice teachers had traditional orientations to teaching and the teacher educators were found to have constructivist orientations to teaching. Kesal also found that teacher education programs differed in their perceptions about the characteristics of constructivist classrooms, and suggests reconsidering learning activities, evaluation strategies, student learning experiences, and teacher educators' roles in the classroom. The following paragraphs review research studies that pose constructivist approaches in teacher education.

2.11.3. Research on the Role of Teacher Educators

The role of teacher education in Vygotsky's social cognitive learning theory suggests a clear vision of a social environment that is supportive to learning. Courses at pre-service education must model: collaboration between and among the teacher and the students; negotiation to create subjectivity, and creation of interpersonal joint activity settings that support instructional conversations. Such conversations may also occur within the classic Socratic seminar in which students and learners explore together problems. The challenge is to prepare teachers who can create new environments for learning within schools (Hausfather, 1996). The more research and theory exerts a need for teacher education programs to educate preservice teachers as lifelong learners, the more the role of the educator needs to be emphasized. Teacher educators should help their learners become active learners that hold a disposition to

frequently research, assess, apply, and refine knowledge throughout their careers (Keating, Baldwin, & Thousand, 1998).

Pépin (1998) argued that knowledge that is viable in the natural environment like homes or streets is not necessarily viable at schools, and underscores that knowledge must undergo change and that this change can be attained by the construction of the educator. Pépin (1998) complained that the education of educators for the practical knowledge is still viable in their context, and the kinds of school knowledge they are offered in preservice or in-service teaching programs are still in the form of teacher-centeredness. Ultimately, change within the preservice teacher education program alone may not bring about change in the practices of teacher candidates. Such environments object to what Novak (1998) calls "continuing the pursuit of a dream."

Tatto (1999) underscored that the literature considered two aspects for developing a constructivist approach to teacher education. First, there should be a theoretically grounded view of learning that shifts traditional conceptions of knowledge that is taken for granted to the knowledge that is developed by those who are involved in the teaching and learning process. This type of knowledge needs to be included with deep knowledge of subject matter, a discipline-based curriculum, and that all participants do contribute to the teaching and learning process. Second, the learning environment should encourage reflection, dialogue, critical thinking, ownership of knowledge, and insure continuity of the learning process.

Kroll and LaBoskey (1996) assert that learning to teach is a lifelong construction process. They deeply believe that teacher educators' goal is to help teachers to become agents of change, to become active, knowledgeable, problem-solvers in teaching children. They also belief that teachers need to hold knowledge about developmental theory and the ideas of inquiry and reflective teaching to learn to teach. Such attainment seems to be an outcome of constructivist experiences to teaching and learning as such contexts provide teacher candidates with the necessary tools throughout their teaching careers.

In order to examine teacher educators' practices, Lunenberg and Korthagen (2003) carried out case studies on the daily practices of five teacher educators. Data

were collected through semi-structured interviews and observations by applying for a variety of data sources: teacher educators, student teachers, and teaching sessions. The authors found that teacher educators did not always teach what they preach, especially discussing the influence of the findings with regard to promoting a shift from teacher educator-directed learning to student-directed learning. The authors argue that teacher educators should not only reflect but must also teach their student teachers to reflect, and teacher educators should be role models and explain the pedagogical and didactical choices they make as a need to promote teacher educators' competences.

2.12. Criticism of Constructivism

Although constructivism has gained a significant amount of support in the literature of learning and teaching environments, there are several criticisms revealed. The first one is that in order to become goal-directed learners, teachers are likely to abandon their curriculum to pursue the desires of their constructivist students. Another critique is that constructivist approaches to education lack strictness, and cause insecurity of what is being done (Brooks and Brooks, 1999).

Gergen (1995) disagrees with the literature that says that many constructivist teachers presume that students will appreciate and "equally" benefit from highly interactive and cognitively enriched learning environments. Gergen addresses several reasons for that. First, differences of learner characteristics may favor or disfavor a constructivist learning approach. Thus, research does not significantly prove the belief that constructivist methods of instruction are far superior to more conventional strategies. Also, sound evidence about the serious educational dilemmas in public schools being resolved is not provided (Gergen, 1995; Sink, 1997).

Sink (1997) highlights the importance of the training teachers before fully implementing the constructivist approach. Therefore, he demands that the assumptions, mechanisms, and processes essential to the creation of knowledge must be accurately described and extensively researched. Other issues such as selecting the curriculum; establishing standards for evaluation merits; how to deploy a

complex pedagogy with 30 or more highly diverse students in a classroom designed for didactic methods of teaching; are also highlighted as emergent in providing sound explanations based on research.

Kozioff et al. (2000) referred to the contributions of direct instruction to high school achievement and gave examples from the literature on constructivism. The authors highlighted experimental research that failed when it was conducted in a large scale. Next, they referred to the unequal distribution of knowledge and life-chances, and its bias on socially and economically advantaged learners. Also, they pointed out the poor educational background of some learners that might later interfere with learning other subjects. For instance, poor communication skills might be a disadvantage in skilful reasoning.

Baines and Stanley (2000) highlight that teaching is one of the most demanding and dynamic occupations on earth. It requires eclecticity, spontaneity, and highly adaptability. The authors state that classrooms are hunger for knowledge and complain that the constructivist approach to teaching takes away from the learner not being able to receive sophisticated knowledge by just working in small groups with peers. The complaints they maintain is that the teacher as a facilitator is not required to know any of the answers, or if there is it should not be communicated to the learner. They do not see any relevance in not communicating with the learners about factual knowledge. They assert that lecture and discussion are powerful educational tools, especially if they are in the hands of charismatic, demanding, and knowledgeable teachers.

Bains and Stanley do not make any distinction among the constructivist approaches revealed in the literature, rather they undertake them under one umbrella. They also seem to underestimate the role depicted on the constructivist teacher without providing proper evidence from the literature. Could this kind of complaints be related to difficulty of leaving aside the traditional role depicted on schooling and teaching or could it be the vague understanding of what it is to be a constructivist teacher? In the studies mentioned earlier, it was found that teachers were not sure of how to create constructivist learning environments and how to give floor to the students in their learning process? "For the zone of proximal development to be

effective, a teacher must be willing to support learning and a student must be willing to assent to learn" (Hausfather, 1996, p. 5). The support system in the social environment should match the acquisition process in the learner, which does not happen easily in the school environments. The teacher needs to collaborate with students to negotiate meaning in ways so that students can take ownership of the knowledge and meaning. Activities need to create and support instructional conversations. To converse involves assuming the learner has something to say beyond answers, and engage learners in the discourse (Hausfather, 1996).

In brief, issues pertaining to criticism of constructivism vary from goal setting and evaluation of conceptual change to epistemological beliefs, from social injustices among learning environments to tackling with diverse settings, and from large scale to specific contextualized studies. In this study, the purpose is to find out how preservice teachers in a Turkish context perceive their learning when they are subjected to constructivist learning environments, and provide implications to teacher education in a different socio-cultural context.

2.13. Summary of the Literature

Reflecting on the past traces of constructivism, Socrates, Kant and Rousseau emphasized that the individual learns through reasoning and dialogue, and hold the idea of seeking the scary "absolute truth." Contemporary philosophers such as Latour, Woolgar, and Bloor perceived that any science is an outcome of social construction. Opposed to the latter philosophers, Hacking proposes a strong program that has its facts rooted on scientific research. It was with Piaget that constructivism was first mentioned in education. Learning is promoted with maturation and the number of interactions with peers. Vygotsky took it to a further step by stating that knowledge constructs are developed through interactions with a more knowledgeable person, which is known as the zone of proximal development.

Social or Vygotskian constructivism emphasizes education for social transformation. Individual development derives from social interactions within which cultural meanings lead to new understandings. The subject of study is the dialectical

relationship between the individual and the social and cultural milieu. Vygotsky proposed a theory that integrated development with social practices. It is a theory in which the individual is driven by goals and needs. First he or she imitates, then performs with assistance, and finally performs alone (Lerman, 2000).

Literature shows evidence that the social constructivist theory in preservice teacher education has been effective on the education of preservice teacher education (Holt-Reynolds, 2000; Jadallah, 1996; Kroll & Laboskey, 1996). However, literature also shows that preservice teachers or teachers have difficulty in translating their constructivist experiences into their teaching practices (Pankratius, 1997; Tatto, 1998). Therefore, it is suggested that teacher educators need to act as role models in their classrooms and reflect upon their practices so that these may be conducive to student teachers' further development (Lunenberg & Korthagen, 2003). Although literature on constructivism in the Turkish context is not plenty, there is evidence that there are individual attempts to create constructivist learning environments in teacher education (Kesal, 2003; Koç, 2002; Semerci, 2003). Yet, these studies are not sufficient to understand the impact of constructivist learning on learner achievement and attitudes. Although much is said about the positive influence of constructivist learning environments on the achievement of learners, not all literature on constructivism is that praiseful. There are still difficulties in the implementation of constructivist theory in schooling (Baines & Stanley, 2000; Kozioff et al., 2000), especially, with regard to process-based evaluation or portfolio assessment. To understand the impact of constructivist learning and teaching on learner achievement and attitudes in a culturally different environment becomes critical.

In the following chapter, details about the method of the study that was conducted at preservice teacher education are given.

CHAPTER III

METHOD

This chapter elaborates on the method used to conduct the present study that deals with understanding the impact of constructivist learning activities on the development of preservice teachers in classroom management skills. The chapter begins with the presentation of the overall design and the research questions. Then, the chapter proceeds with a brief description of the course, and documents the constructivist learning environment compared with the traditional one. Next, the data sources, data collection procedures and data analysis procedures are explained. The chapter ends with the limitations of the study.

3.1. Overall Research Design

The purpose of this study was to examine the impact of constructivist learning process on the development of preservice teachers' classroom management skills. In order to understand whether there was a significant difference in student achievement, retention, attitudes, and perceptions when subjected to social constructivist learning environments compared with traditional instruction. An experimental and a case study design were used together. The experimental design was used to answer research question 1 and 2 and the case study design was used to answer research questions 3 and 4.

The experimental design used in this study is a pretest-posttest design. Experimental studies are unique for they directly attempt to influence a particular variable, and secondly in case where it is properly applied, they are the most suitable type of testing hypotheses about cause and effect relationships (Fraenkel & Warren, 1996). Therefore, for this part of the study quantitative data collection methods were used. In addition, the case study design (involving learner interviews, and learner reports) was used in this study since it allows the researcher to reveal and explain why the entity acts as it does (Thomas, 2003). Using qualitative data collection methods for the case study design provided the researcher with rich, descriptive and thick data that provided her with in-depth knowledge about student perceptions and diverse classroom contexts (Fraenkel & Warren, 1996; Richards, 1990).

Literature shows that it is actually difficult to draw a sharp division between qualitative and quantitative research and the common belief is that both methods complement each other (Dey, 1993; Miles & Miller, 1994). Denzin (1970) explains that the flaws of one method are often the strengths of another. Miles and Huberman (1994) state that one can benefit from qualitative data in order to supplement, validate, explain, illuminate, or interpret quantitative data gathered from the same setting. Thus, the blending of data collection methods gives the opportunity to triangulate the data to reach reliable results. The rationale for triangulation qualitivative and quantitative data is to pick different sources that have different biases or strengths so that they can complement each other (Miles & Huberman, 1994).

Qualitative research investigates human phenomena from an in-depth perspective (Marshall & Rossman, 1989) and is conducted in natural settings (Denzin & Lincoln, 1994). The purpose of qualitative research is to learn about some aspects of the social world and generate these so that new understandings can be used by that social world. Eventually, researchers become part of the process, by continually making choices, testing assumptions, and reshaping their questions since it is "uniquely suited to discovery and exploration" (Rossman & Rallis, 1998, p. 63).

Table 3.1 illustrates the method of the study. Both qualitative and quantitative data were collected from learners in the "experimental" and the "control groups." The instruments consisted of a Multiple Choice Test, Essay Type Test, and Attitude Scale for the experimental study. The case study included instruments such as Metaphorical Images Form, Open-Ended Questionnaire, and Formative and Summative Interview Schedules. Data analysis comprised of descriptive and inferential statistics for quantitative data, and content analysis for qualitative data.

Table 3.1
Overall Design of the Study

Random Groups	Prior to treatment	During the treatment	After the treatment	3 Months after the treatment
Experimental	*Multiple Choice Test (pre) *Essay Type Test (pre) *Attitude Scale (pre) ΔMetaphorical Images Form (pre)	ΔOpen-Ended Questionnaire ΔFormative learner interviews	*Multiple Choice Test (after) *Essay Type Test (after) *Attitude Scale (after) ΔMetaphorical Images Form (after) ΔSummative learner interviews (after)	*Multiple Choice Test (retention)
Control	*Multiple Choice Test (pre) *Essay Type Test (pre) *Attitude Scale (pre)	ΔOpen-Ended Questionnaire	*Multiple Choice Test (after) *Essay Type Test (after) *Attitude Scale (after)	*Multiple Choice Test (retention)

In this table * represents quantitative and Δ qualitative data collection methods.

3.2. Research Questions

The purpose of this study was to examine the impact of constructivist learning process on preservice teacher education students' performance, retention, and attitudes in Classroom Management Course. Under the roof of this purpose there were four themes that guided the research process and gave shape to the research questions and hypotheses presented below.

R.Q. 1: Is there a significant difference between experimental (subjected to constructivist learning process) and control groups' (subjected to traditional instruction) achievement and retention in Classroom Management Course as measured through a multiple-choice test and an open-ended essay-type test?

Ho1.1: There is no significant difference between experimental and control groups' achievement scores as measured through a multiple-choice test.

Ho1.2: There is no significant difference between experimental and control groups' retention scores as measured through a multiple-choice test?

Ho1.3: There is no significant difference between experimental and control groups' achievement scores as measured through an essay-type test.

R.Q. 2: Is there a significant difference between experimental (subjected to constructivist teaching and learning process) and control groups' (subjected to traditional instruction) attitudes toward Classroom Management Course as measured through an Attitude Scale?

Ho2.1: There is no significant difference between experimental and control groups attitudes toward learning about classroom management skills when subjected to a constructivist learning environment.

R.Q.3: What are the metaphorical images of classroom management the learners hold before and after being subjected to constructivist learning environments?

R.Q.4: What are the learners' perceptions about the learning process in Classroom Management Course?

3.3. Context

Classroom Management course (CMC) is offered to preservice teachers in the third year of the teacher education program at METU. Before attending this compulsory course, students attend their fist year a pedagogical course called Introduction to Teaching Profession, which deals with general issues about schooling and the foundations of education. Next, in their second year, they are offered Development and Learning and Instructional Planning and Evaluation courses (3 hours and 5 hours respectively per week in one semester). Students take additional pedagogical courses later in their undergraduate programs, and participate in practice teaching in schools.

CMC is offered for four class hours per week throughout a semester. Before the intervention took place, three textbooks were selected as the main course books. Regarding student, program and pedagogic need, topics on classroom management were specified and distributed to 11 weeks. Two hours were used for the theoretical discussions and sharing of real life experiences specifically, and the remaining two hours were mainly used for practice. The content of the course covered the following areas: 1) classroom environment and basic concepts in classroom management; 2) designing the physical environment; 3) developing and teaching rules and routines; 4) gaining students' cooperation and motivation; 5) protecting and restoring order; 6) Managing time, seatwork and group work; 7) managing recitations and discussion; and 8) building cooperation with families. The course objectives can be seen in Table 3.2.

Although a blueprint was ready for tasks and activities to be conducted for each week, before the sessions started, every week either new tasks or activities were constructed, or the present ones in the blueprint were modified based on observations, class experiences, and reflections of students and the implementers. Such approach can be regarded as an indispensable outcome of being in a constructivist context.

It is important to note that the sample had no opportunities to be involved in field practice activities during this course; therefore, the sessions were designed as

such a way to help them understand classroom management from a critical perspective by integrating current theory and research with their own present and past learning experiences. As such, a variety of techniques including simulation activities, problem-solving activities, narrative case studies, research activities and activities based on visuals (video, authentic pictures) dealing with classroom management issues were utilized.

Table 3.2
Classroom Management Course Objectives

Learners are expected to
1. Increase understanding of the classroom context from physical, social, psychological and cognitive perspectives.
2. Develop awareness of the variety of approaches to classroom management and discipline.
3. Survey issues on classroom management and discipline and develop a more critical perspective to classroom management styles of teachers.
4. Improve and develop strategies in establishing and maintaining a healthy learning environment; managing time, seatwork, group-work, recitations and discussions.
5. Increase awareness of teacher-parent cooperation in maintaining effective teaching and learning processes.
6. Develop a reflective diary that exposes their understanding about classroom management that may fit into the socio-cultural contexts that you may be teaching.

3.4. Treatment

As mentioned in the overall design, this study included a pretest-posttest control group design. The experimental group was subjected to a constructivist learning environment, and the control group was subjected to traditional instruction. The former group was exposed to learning environments in which dialogue, collaboration, research, peer teaching, peer evaluation, authenticity, and problem solving tasks were emphasized. The activities and tasks during the process were mainly based on the seven dimensions of constructivist learning environment stated by Tenenbaum et al. (2001). In addition to these dimensions, self and peer

evaluation, peer teaching, and portfolio activities were included (see Table 3.3 for details). Most of the active learning activities required higher order thinking.

The implementers of the study were the researcher and a volunteer instructor who had eleven and eight years of undergraduate teaching experience respectively. The purpose of working with a volunteer implementer was to eliminate the researchers' bias in the study, and construct a community of shared responsibility and accountability.

The implementation in the experimental group is illustrated in Figure 3.1. The figure shows the social constructivist implementation, and the dynamics that influence knowledge construction. As it can be seen in the figure, learning is an ongoing process fostered by previous knowledge and reflections on new learning.

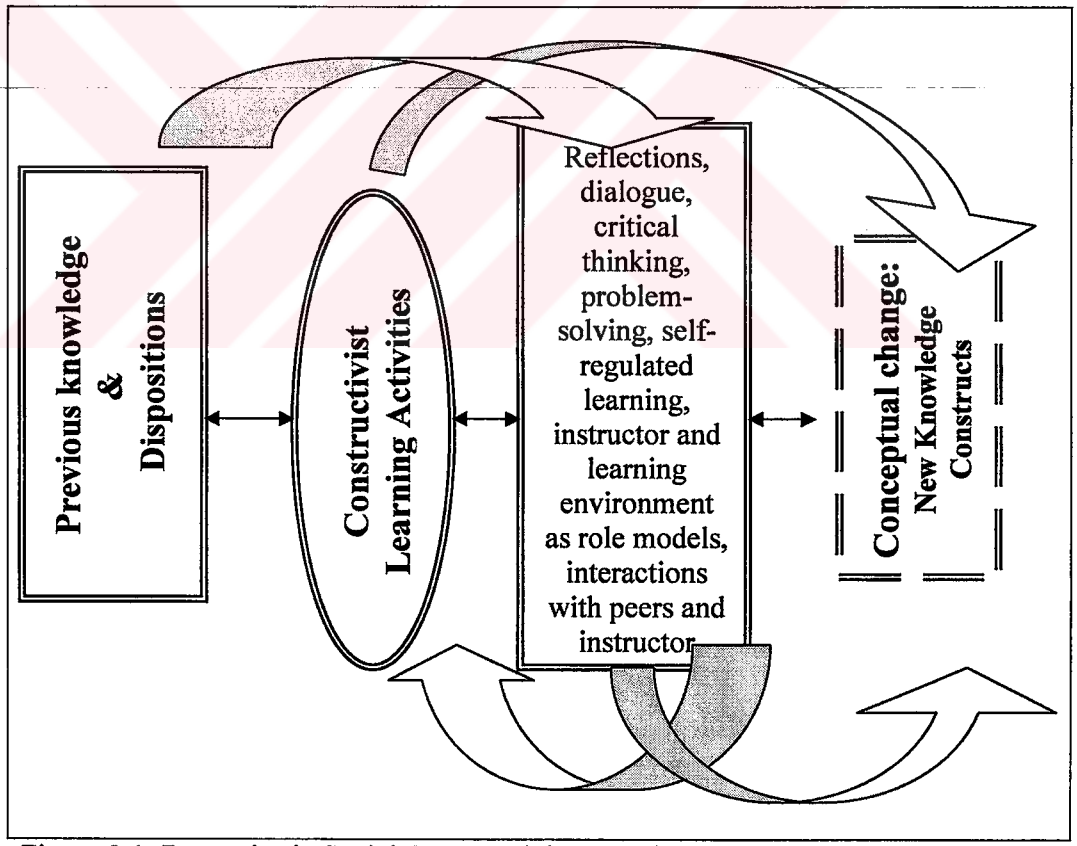

Figure 3.1: Dynamics in Social Constructivist Learning Environment and Outcomes

The control group received the same activities, flyers, and or handouts for ethical purposes and not to favor one group over the other. However, the difference in the learning activities was that the control group handled them from a traditional approach. For instance, when groups needed to solve problems in a narrative case in small groups in the experimental group, the learners in the control group worked more individually with the guidance of the instructor. While the experimental group engaged in critical thinking by reflecting on the solutions by relating past experiences with recent knowledge constructs, the control group solved the problems by indicating the theory they were taught based on the reading resources and were given the opportunity to check their answers or solutions in groups.

In the experimental group collaboration refers to reflecting on every individual's perceptions about the problems in groups, relate these to the cultural context and find constructive solutions adaptable to the cultural environment. Collaboration in such cases is not an "ends" in itself rather it is a "means" to new learning.

The instructors also needed to change their roles from a teacher-centered role to a constructivist or learner-centered role in the experimental group. The idea behind acting as a constructivist teacher educator was that rather than accepting or acquiring the theory they read or heard, the instructors wanted learners to create their own learning through critical thinking and analyzing student behavior from their cognitive and affective developmental perspectives by utilizing various resources. Meanwhile, the researcher's philosophy was to model as a constructivist teacher who both coaches or scaffolds and collaborates in problem solving activities. In other words, the notion that requires teacher educators to "do what they preach" (Holt-Reynolds, 2000; Jadallah, 1996; Kroll & Laboskey, 1996) was used in the instructional as well as the classroom management approach. In the control group, the instructor was more of an authoritarian in telling what to do, or reciting to understand whether the content was comprehended. Also, the learners in the control group were told what was right or wrong in dealing with classroom management problems. In the constructivist group, the learners were not lectured about how to act or what to do as a prospective teacher, rather, the instructors told about their own experiences as means to reflection and discussion, and constructing new learning.

Table 3.3
Comparative Table of Constructivist and Traditional Classrooms

	Control	Experimental
Teacher Educator	Leader, director, expert	Facilitator, guide, learner, and scaffolder
Learners	Do what they are told, deal with exercises individually, and discuss their findings	Explore, solve problems, investigate, suggest, reflect, discuss, and analyze cases in groups.
Learning Environment	Traditional, individual and group work. Teacher-initiated activities or discussions.	Constructivist, collaborative, whole/small group discussions, learner-initiated activities
Assessment & Evaluation	Goal-directed, summative.	Mainly process-based (portfolio evaluation), authentic (peer & self evaluation).

Literature reveals that constructivist learning environments require the students to take responsibility in decision-making, and taking ownership of learning (Brooks & Brooks, 1993; Shunk, 1996). Although a blue print was ready for each unit, these were flexible because learners were given choice in the decision-making process. For every unit, detailed plans were designed to guide the implementers. Table 3.4 shows the distribution of the characteristics of the activities used to help students learn about classroom management issues in general. It is important to note that each week's activities were unique to the topic and their reconstruction were based on obtrusive observations (see Appendix M for a sample unit plan).

The literature on constructivism shows that process evaluation is essential in evaluating learners' knowledge construction. In this study, portfolio assessment, peer evaluation and self-evaluation were used as *alternative assessment* means. As a researcher and teacher educator, it was indicated that learners were required to construct their own understanding of classroom management through engagement in dialogue with their peers, instructors, and various people involved in schooling such as teachers, students, and parents while collecting their documents for their

portfolios. The learners were autonomous to a certain extent in documenting their portfolio items provided that they could show evidence of their learning about classroom management skills, and their philosophy of classroom management. The learners were required to show evidence of a classroom management plan for first/second day activities including rule setting and routines, motivational activities that are means to promote cooperation in class (community building), a physical setting plan including a reflective paper explaining the functions of the setting, and reflective diaries for each unit. In addition to these, learners were told that they were free to include any item that would reflect their understanding of classroom management in general (see Appendix N for the portfolio guide).

Table 3.4
Dimensions in the Constructivist Learning Environment per Week

	1	2	3	4	5	6	7	8	9	10	11	12
Dialogue: discussions, arguments, debates		X	X	X	X	X	X	X	X	X	X	
Conceptual conflicts or dilemmas			X	X		X			X		X	
Sharing of ideas			X	X	X	X	X	X	X	X	X	
Problem-solving materials				X	X		X	X				
Reflection			X	X	X	X	X	X	X	X	X	
Concept investigation			X		X	X			X		X	
Meeting student needs		X	X	X	X				X			
Authenticity: Meaning making, real-life examples				X	X	X				X		
Peer-evaluation, and/or self-evaluation			X			X	X	X			X	X
Portfolio activities			X			X			X		X	
Administration of instruments	X	X					X					X

In this Table the columns represent 4 class hours (50 minutes each) per week

Evidently, keeping diaries has multiple purposes: monitoring their knowledge construction through investigating issues of concern and sharing these with peers; self-evaluation of learning experiences, and learners' epistemological beliefs. Questions such as, what are the differences between my ideas or beliefs and that of others', how do differences I hear influence my learning, have I integrated the knowledge I knew with the new ones perceived during the problem-solving tasks, and other forthcoming issues were suggested as guiding questions for the diaries.

During the implementation of the constructivist learning process in Classroom Management course, the implementers of the study came together every week to discuss and to share the particular unit plan of the week, including the activities and materials, and discuss the code of conduct during the implementation. Moreover, reflective papers based on each unit were prepared by the researcher. Consequently, critiques about the tasks and activities were shared and discussed and were sometimes means to modify the instructional design of the unit plan. Also, reflections were important to understand the volunteer implementer's perceptions about building a constructivist environment for the learners with regard to its weaknesses and strengths, or its burdens and comforts during the implementation.

The control group was evaluated based on two midterm exams and the Achievement Test. One of the midterms was a collection of learner-centered items from the sample. In other words, the participants cooperated in constructing the items for the midterm. This learner-centered test and the achievement test were used for both groups; however, their weights were much less for the experimental group because process-based evaluation was the main evaluation criteria used for the experimental group. The purpose of sharing the same tests in both groups was to eliminate any biases in favor of a group that might violate the achievement test results.

3.5. Experimental Procedures

The experimental procedures in this study could be described as procedures before the implementation started, during the implementation and after the implementation.

Prior to the implementation, in December 2001, the curriculum of Classroom Management Course (CMC) was examined and a table of specifications (Table 3.6) was prepared with regard to the (multiple choice) achievement test to be used. First, from a pool of 90 test items on classroom management, a blue print was prepared based on the Table of Specifications. For the essay type test, several cases were examined that appeared in textbooks that held authentic cases. Next, two cases were prepared by adapting the cases to the cultural context, and problem solving questions were added to diagnose learners' prior knowledge. Next, the tests were pilot tested with a group of 35 learners who took this course the previous year. According to item analysis findings of the piloted multiple choice test, and expert opinion on the findings of the essay type test, necessary modifications, such as constructing new items or modifying the available items, were made. At the meantime, an attitude scale was prepared and pilot tested with the same learners mentioned above.

For the implementation of the experimental study, an instructional design was prepared. Based on the literature on social constructivism, activities and tasks that would be used during the implementation were prepared. The activities were mainly draw upon Tenenbaum and friends' (2001) dimensions of activities in constructivist classes. However, during the process of the implementation, new activities and tasks were designed and added. These were based on the researcher's observation field notes, and the reflections between the researcher and the volunteer instructor during weekly briefings.

Classroom Management Course was taught by an instructor and the researcher, whom were assigned to teach two sections each. The instructor, pseudonym Karya, volunteered to participate in the study. Consequently, the learners taking CMC in their third year in the Department of Foreign Languages Education were randomly assigned to four sections. Out of all the sections, section 1 and section 2 were randomly selected as the experimental group (n = 76), and section 3 and section 4 as the control group (n = 68). The researcher and the volunteer instructor taught one experimental and one control group each. For the process of the implementation, Karya and the researcher decided to meet one week before the sessions to share the instructional plans, the code of conduct, the materials to be used, and their reflections about the particular constructivist learning activities used

during the implementation. Consequently, the experimental group was subjected to social constructivist learning process, and the control group, to traditional instruction.

In the first week before the implementation, the multiple-choice test, essay type test, and attitude scale were administered before the implementation to both the control group and the experimental group. The implementation lasted for 11 weeks in the Academic Year 2001-2002, Fall term.

The experimental group was also informed that they were expected to prepare a portfolio that included weekly reflective diaries. After this session, Karya suggested meeting one or two days before the class to meet for the sharings to keep the instructional plan fresh in mind. So, activities to be conducted were shared two days before each session. In week 4, an open-ended questionnaire was constructed and administered in week 6 to both the experimental and the control groups. Content analysis findings of the open-ended questionnaire yielded the items for the semi-structured interviews in the experimental group. Also, it yielded new ideas for designing the activities for the constructivist learning process. In week 5 and 6, learner portfolios (n = 72) that included their reflective diaries were collected, and constructive feedback was given by the researcher. Based on the evaluations of the portfolios and the motivation level of learners observed during the sessions the focus groups for the interviews were selected (see for details in section 3.6.2). In week 7 the interviews with 12 subjects took place. Based on the interview data and the open-ended questionnaire the following changes were introduced in the sessions.

The formative interview data served as a catalyst for reflection and enabled the researcher to explore the conceptual understandings learners were constructing about their experiences (Jadallah, 1996), and enabled to introduce new applications to meet their needs reflected throughout the interviews. In light of the purpose of process-based evaluation, suggestions provided by the open-ended questionnaire and the semi-structured interviews, and new materials were constructed and were utilized within the same week. The changes are explained in the next paragraph.

First, with regard to the authenticity of the resources, a research article on classroom management issues in Turkey was used. Secondly, the volunteer instructor (Karya) arranged a guest speaker to inform learners about parent-teacher

cooperation. Also, a volunteer student teacher doing field practice accepted to be video-taped during her teaching practice, and this video-tape was used to show an authentic classroom environment in the Turkish context. Third, with regard to portfolio preparation an additional detailed guideline (Appendix O) on how to complete their portfolios was provided. The learners were monitored in writing their reflective diaries.

Ultimately, after eleven weeks the implementation finished and the instruments that were administered before the implementation (multiple choice test, essay type test, attitude scale) were also administered after the implementation. The learners in the experimental group were asked to include into their portfolios a reflective paper about the metaphorical images they held before the implementation and after the implementation. Since one section in the control group only provided the concepts and not the description of the metaphorical images, the control group's data about the metaphors were excluded from the overall design.

In week 13 the summative interview was held with the purposefully selected sample in the experimental group. Since the participants were in their final examination week, it was difficult to bring all focus groups together. Consequently, a semi structured interview was conducted with seven members of the sample. Five of participants were interviewed in a group and two were interviewed independently. Finally, a retention test, that was the same as the multiple choice test, was administered to all groups in the next academic year (2002-2003) after three months. Consequently, data analysis procedures based on the final data were done.

3.6. Data Sources

The participants of this study were all the learners (n = 144) in the Department of Foreign Language Education taking Classroom Management Course in the Academic Year 2001-2002, METU. In the first section, the experimental study participants, and then, the case study participants are explained.

3.6.1. Experimental Study Participants

Learners attending their third year as preservice teachers in the Department of Foreign Language Education at Middle East Technical University (METU), Turkey, formed the sample (N= 144). All students were randomly assigned to sections as a common policy of the institution. For this study, two sections out of four sections were randomly selected for the social constructivist implementation. The remaining two sections were subjected to traditional instruction. Prior to the study both groups (constructivist and traditional groups) showed homogeneity regarding their CGPA scores (Experimental = 3.07, n = 76; Control = 2.93, n = 68). The case study was conducted with the researcher's (n = 34) class and a volunteer instructor's class (n = 42). Table 3.5 shows the distribution of the subjects in the study.

Table 3.5

Distribution of Subjects of the Study

Gender	Experimental Group	Control Group	Total
Male	23	24	57
Female	53	44	97
Total	76	68	144

3.6.2. Interview Participants

As it can be seen in Table 3.1, interviews were conducted during the implementation and after the implementation. Amidst, the implementation semi-structured interviews were held with 2 focus groups (2X3 students, N = 12) in each class. In other words, there were six learners selected from each experimental class as two focus groups. Learners were selected purposefully so that they would represent the current population in the experimental group. First, portfolios were collected, and a one-page (between 175-250 words) reflection was written by the researcher for each portfolio to provide students with written feedback and guide their reflective diaries (see sample reflective feedback Appendix E).

Second, in each class two learners showing "high class performance and enthusiasm" during sessions, and also who had written "meticulous reflections" in their portfolios were selected. Moreover, two were selected among the learners with a more "moderate attitude" with regard to the criteria mentioned above, and the final ones were selected from among those who showed "less enthusiastic performance" during sessions, and with poorer portfolios. One of the female learners was not available during the time of making consents for interviews; therefore, a volunteer learner agreed to be involved in the study. Consequently, "six male and six female" interviewees (n = 12) were the participants of the "formative interview", and all were given pseudonyms. The process-based interviews were conducted with the researcher in the volunteer teacher's section and with an outsider expert in the researcher's section.

The "summative interview" with the focus groups was realized after the treatment. However, by the time the interviews were to be held it was difficult to bring together the same focus groups due to the final examinations' week. Learners who participated earlier in the interviews were asked to meet at their convenience. Consequently, five learners formed one focus group for the summative interview, and two learners were interviewed independently. Consequently, "two male and three female participants" (n = 5) formed the focus group, and "two females" (n = 2) formed the independent interview sources for summative evaluation purposes.

3.7. Data Collection Instruments

In this study an experimental design and a case study design were used. For the experimental design a "multiple choice test, essay type test, and an attitude scale" were used before and after the implementation. The multiple choice test was also used as the retention test. For the case study design, an "open-ended questionnaire, a metaphorical images form, and semi-structured interviews" were used. These are explained in detail in the following sections.

3.7.1. Multiple Choice Test

Both the experimental and the control groups received a sixty-item multiple-choice test on classroom management before and after the implementation as well as retention test after 3 months. In order to construct the Achievement Test, first, a table of specifications was prepared based on content analysis. A pool of items on classroom management was either selected from textbooks on classroom management pedagogy or constructed by the researcher and an expert. Among 90 items 62 were selected through expert opinion.

Table 3.6
Table of Specifications for the Achievement Test

	Lower Order Thinking Items (achievement, comprehension)	Higher Order Thinking Items (application, analysis, synthesis, and evaluation)
Concepts/functions of CLM	6, 5	1, 2, 3,
Discipline strategies	41, 42, 43,	12, 34, 36, 37, 39, 44, 35, 4
Classroom organization	7,	
Rules and routines	10,	12, 34, 8, 9, 11, 13
Motivation/student expectation	21, 15, 17, 18, 20, 22, 23, 26, 29, 32,	14, 24, 25, 31, 33, 19,
Instruction/cognitive learning	40	16, 27, 28, 56
Punishment and misbehavior	45, 46, 47, 48, 49, 50, 53, 55	54
Awards		51
Feedback		57
Gaining cooperation	58,52, 30	38,60
Teacher/parent cooperation		59

The content validity of the test was verified through expert judgment (a subject-area professor) and pilot-tested by a group of learners (n = 35) who had attended Classroom Management Course in their former year. While the learners were responding to the items, they were required to write any difficulties they confronted when responding to the items. Finally, the responses were run on an item analysis computation. The item analysis findings that showed the items below > .1

and above < .9 were eliminated and new items were constructed. Consequently, two of the items were eliminated. Finally, some items were reworded and two were deleted and the instrument was subjected to expert judgment again (three subject-matter education professors). The Cronbach Alpha value was .83, which indicates a high level of reliability.

The revised version of the test consisted of 60 items in total. The test items measured an almost equal range of lower (29 items) and higher order (31 items) thinking skills in the cognitive domain (see Table 3.6). Items were coded as lower order or higher order thinking items by the authors and two specialists in curriculum and instruction to assure content validity. Lower order thinking items were the ones that matched "knowledge and comprehension" categories in Blooms' taxonomy, and the items in the higher order thinking items were the ones that were related to "analysis, synthesis, and evaluation" in the same taxonomy (Appendix A).

3.7.2. Essay Type Test

Literature based on achievement in constructivist learning environments recommends that traditional Essay Type Test be used to facilitate comparative studies (Tynjälä, 1999). Under the pretext of this assumption, two cases adapted from (Emmer, Evertson, & Worsham, 2000; Silverman, Welty, & Lyon, 1996) were used and questions were constructed that measured their problem-solving skills in classroom management were employed (Appendix B). The content of the instrument was validated by three experts. The piloting of the cases was realized with the sample revealed in the achievement test. The "Essay Type Test" was administered before and after the treatment to both experimental and control groups. The pretest results were obtained holistically to examine the learners' present knowledge construction on solving problems related to classroom management. For the measurement of the posttest, a "scoring rubric" was used (see Appendix I). There were six criteria used to evaluate the essay type test based on a four-point rating scale ranging from one to four (1 = weak; 2= average; 3=good; 4= very good) to measure learners' problem solving skills. To measure the interrater reliability of the scores, nine randomly selected cases were evaluated by an expert in Curriculum and Instruction. The total scores obtained for each case was run in the SPSS package program for a correlation

analysis at significant level 0.01. The results indicated that the scores given by both the researcher and the expert were highly correlated (Correlation significance value = .88 when measured at significance level $\alpha < .01$).

3.7.3. Attitude Scale

Both the experimental and the control groups were administered an "Attitude Scale" on classroom management before and after the implementation (see Appendix F). The attitude scale consisted of 42 items that aimed at examining learners' attitudes toward Classroom Management Course from several perspectives: the course, the activities and assignments, and affective aspects in general. To construct the instrument, (22) negative and (20) positive items were used to measure the above perspectives. These items comprised of adjectives that depicted attitudes measuring like/dislike, enthusiasm/boredom, relevance/irrelevance, usefulness/uselessness, importance/unimportance, interested/uninterested, necessity/no necessity, forgetfulness, self-confidence/anxiety, easiness/difficulty, and obligation/willingness. The attitude scale was pilot tested with a group of learners (n = 35) who had attended Classroom Management Course in their former year. The content validity of the test was verified through expert judgment (a subject area professor).

The final version was negotiated with the help of a Professor of Education, specialized in curriculum and instruction. Consequently, the attitude scale consisted of (22) negative and (20) positive items on a five-point Likert Scale ranging from "strongly disagree" to "strongly agree", where the midpoint was "uncertain." The scale reliability of the Attitude scale in the pretest was Cronbach Alpha .91 (N = 131), and .93 (N = 112) in the posttest when measured at Alpha < .05 (Appendix C).

3.7.4. Metaphorical Images Form

Data related to metaphorical images about classroom management were collected before and after the social constructivist implementation in Classroom Management Course as a reflective activity. To understand the conceptual

knowledge the learners (or preservice teachers) held regarding classroom management, they were asked the following questions prior to the implementation: "What metaphors or images come to your mind when you think about classroom management? Why do you associate that particular metaphor with classroom management?" (Appendix D)

The learners wrote down their thoughts and articulated their metaphorical images and descriptions first in small groups, then to the whole class, upon reflecting on their images about classroom management with their peers. After the implementation, the same questions were asked. Due to time constraints, learners were expected to write a reflective paper comparing and/or contrasting the metaphorical images they articulated prior to and after the implementation. Since one of the control groups did not include descriptions of the metaphorical images after the constructivist implementation, the control groups were excluded from this analysis. Few learners were absent either before or after the constructivist implementation, and few learners did not include any details about the metaphorical image they wrote down. Consequently, among all subjects only 62 of them were included in the study.

For reliability purposes, the expert looked at all the metaphorical images from a holistic perspective and collaborated in constructing the emerging themes into meaningful captions. With expert opinion taken from a field professor in qualitative research, the themes were mutually identified and called as images that depicted controlling or leadership aspects, caring aspects, diversity aspects, chaotic or unpredictable contexts, and images that depicted goal-oriented aspects.

The reliability of the thematic coding was verified by an expert interested in the use of metaphors in foreign language teaching. The expert randomly picked 10 metaphorical images descriptions provided by the experimental group. Next, she crosschecked them according to the student id number provided in the thematic tables, and the report was found to be completely consistent with the data.

3.7.5. Open-Ended Questionnaire

The open-ended questionnaire included questions that were parallel to the interview questions, and, actually, served as an infrastructure to construct the semi-structured interview schedules for the formative and the summative interviews. For the open-ended questionnaire there were two versions parallel with each other, because the instrument was submitted to both the experimental and control groups. The questions in the open-ended questionnaire aimed at exploring the similar dimension as referred to in the interview schedule for learners. The themes in the open-ended questionnaire were as follows: perceptions about 1) CMC before attending it and at that moment; 2) the roles in CMC before the sessions, during the sessions and after the sessions; 3) fulfillment of goals; 4) decision-making and ownership; 5) resources; 6) instructional delivery; 7) motivation and discouragement; 8) study skills; 9) evaluation procedures; and 10) suggestions. The items related to evaluation procedures were the sole differences in the instruments because the control group was not evaluated through portfolio assessment, peer evaluation or self evaluation. The rationale behind this instrument was to examine both the control and experimental groups' perceptions about the learning environment they were exposed to and compare the findings for future implications. The piloting of the open-ended questionnaire was conducted with four learners who had attended classroom management course in their former year. However, there occurred a mismatch with learners' experiences and the items asked in the instrument. Therefore, the piloting of the instrument was disregarded and only expert opinion (Professor of Education) was used for the content validity of the instrument (Appendix F).

3.7.6. Semi-Structured Interviews

The interviews were conducted with learners during the process of the evaluation for formative evaluation purposes, and after the treatment for summative evaluation purposes. The interview schedules were prepared in a semi-structured form, because questions with high quality need to be a few, be open-ended, neutral, and not offensive or obscure (Patton, 1987). All the interviews were recorded with the permission of the interviewees and the recordings were transcribed into written

data. The transcriptions were reread by an outsider for reliability purposes. The formative interview schedule was constructed as parallel in structure with the summative interview schedule and the open-ended questionnaires. The next paragraph elaborates on each.

The formative semi-structured interview schedule for learners encompassed the following dimensions: 1) perceptions about the course; 2) expectations about the course; 3) fulfillment of expectations and goals objectives; 4) perceptions about the course materials; 5) perceptions of techniques and strategies used, e.g., learning activities; 6) involvement in decision-making; 7) motivation; 8) perceptions of the evaluation process; and 9) additional comments and suggestions (Appendix G).

For the summative interview schedule, components such as 10) weaknesses and strengths of the constructivist instructional design implemented; 11) perceptions of being subjected to a similar instructional design (including similar materials, methods and techniques) in groups where instruction if offered by different instructors (Appendix G).

The piloting of the interview schedules was realized with a group of learners in Science Education who were taking classroom management course at METU in the same term as did the sample of this study. This group was subjected to many of the constructivist learning activities as was in the experimental group. The purpose of this was to incorporate multiple perspectives of learners who were being exposed to constructivist learning experiences. This enabled the researcher with an opportunity to receive multiple reflections upon the activities used and provide opportunities to pilot the qualitative instruments. One male learner who volunteered to participate in the study was interviewed to pilot the formative interview schedule. Consequently, based on the piloting of the instrument and the open-ended questionnaire findings, the items in the pilot semi-structured interview schedule were either retained or rephrased 1) to verify that the questions asked focused on essential issues in the treatment; 2) to examine that the questions were logically related and provided opportunities for interaction, and 3) to check the timing of the interview process.

3.8. Data Collection Procedures

As explained earlier, in this study, both qualitative (multiple choice test, essay type test, attitude test) and quantitative (metaphorical images form, open-ended questionnaire, semi-structured interviews) data collection methods were used together. The quantitative design of the study was means to facilitate the comparison of the experimental group and the control group. Yet, it was essential to go beyond the quantification of classroom outcomes because it was important to understand the impact of social constructivist learning activities on learner performance, attitudes, and motivation. Consequently qualitative data collection methods were used to obtain rich, descriptive and thick data that informed us with in-depth knowledge about student perceptions and diverse classroom contexts (Fraenkel and Warren, 1996; Richards, 1990) (Figure 3.2).

First, the multiple choice test (n = 94) (Appendix A), essay-type test (n = 113) (Appendix B) and the attitude scale (n = 129) (Appendix C) were administered to both the experimental and the control groups before the implementation (February, Fall Term 2001). Although the sample was 144, not all of the learners could be reached in the first week of the semester, due to either absentees or due to the following reasons explained. When the instruments were returned, it was seen that some essay-type tests and attitude scales were not responded to or were irrelevant for evaluation purposes. For instance, two of the attitude scales received from the learners included responses on one rating scale only, and three attitude scales were only responded on the first page.

The implementation started in week 2 by including the experimental group in an activity to make them hold ownership of the course. Also, they did an activity to explore learners' metaphorical images about classroom management before they were subjected to constructivist learning process (n = 68) (Appendix D). In week 5 and 6, learner portfolios were collected in the experimental group. For each individual portfolio a one-page reflective feedback page (see Appendix E) was provided which facilitated to purposefully select the interview sample. While the interview sample was purposefully selected, the open-ended questionnaire (Appendix F) was administered to both the experimental and the control groups in week 6. The

return rate of the open-ended questionnaire for the experimental group was 67 and the control group was 59. Consequently, with the evaluation of the portfolios and the data analysis findings obtained from the open-ended questionnaires, the formative interviews (Appendix G) with 4 focus groups (n = 12) were held in week 7.

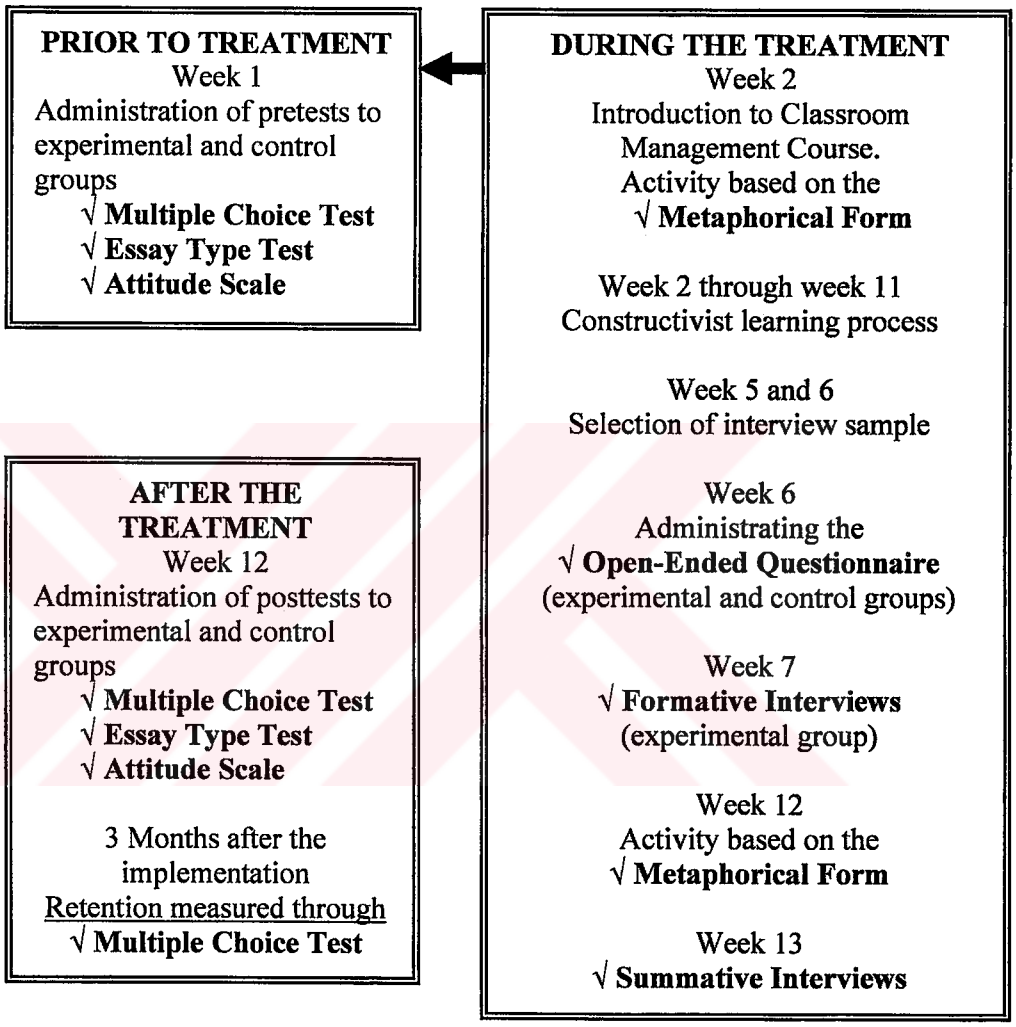

Figure 3.2.
Data Collection Procedures

As for the data obtained after the implementation, the learners were asked to include into their portfolios a reflective paper that compared the metaphorical images about classroom management they selected before the implementation and after the implementation. Only clear descriptions about the images were included in the

sample (n = 62). Next, in week 12, both the experimental and control groups were administered the multiple choice test (n = 144), essay type test (n = 104), and the attitude scale (n = 113) as posttests. The essay type test was administered as an nongraded quiz, and not all learners were present during the test.

In week 13 the summative interviews (Appendix H) were realized (n = 7) with the experimental group. The sample were in summer holiday season after week 13, and after a period of three months, in Academic year 2002-2003, both experimental and control groups were administered the multiple choice test as a retention test to the participants who attended the first meeting classes in the Methodology Course (Spring 2002-2003) could take the test (n = 125).

3.9. Data Analysis Procedures

Data analysis procedures were varied in this study. The analysis procedures for the pretest-posttest design, and that of the case study, including the metaphorical activity, open-ended questionnaire and the semi-structured interviews are explained in the following sections respectively.

The quantifiable data in the multiple choice test, essay type test, and attitude scale were analyzed employing descriptive and inferential statistics. Quantitative procedures involved conducting independent samples t-test to understand the difference between the experimental and control groups with regard to achievement, and attitudes. First, the dimensions that measured lower and higher order thinking (see Table 3.6) were explored for the multiple choice test through expert opinion (Three instructors specialized in curriculum and instruction, and one in guidance and counseling). Next, the total scores were obtained for each dimension, and the findings were compared through independent samples t-tests for both the posttest and the retention test scores. Second, the scores of the Essay-Type Test were obtained through using a scoring rubric (see Appendix I) and run. The total scores of the experimental and the control groups were compared through independent samples t-test computations. For the attitude scale, the negative items were transformed into positive items. Next, the mean scores were obtained for the pretest and the posttest

results. Finally, an independent samples t-test was run to examine learner attitudes toward Classroom Management course. The statistical significance level was used as $\alpha < .05$ for all the independent samples t-test findings.

Data analyses of the Metaphorical Images Form were conducted by exploring the themes and examining the conceptual change in learners' metaphorical images with regard to classroom management prior to and after the implementation. The images expressed by learners were categorized meaningfully to draw conclusions. The images that depicted expressions of control and leadership, caring, diversity, chaos or unpredictability, and goal-orientedness were clustered into themes. These themes were shown in tables, and those themes were crosschecked with an external participant. Such an approach was used to verify that the content of each theme was reliable (Appendix J). Finally, the metaphorical images tables were analyzed with regard to the conceptual "change" or "no change" observed.

All items on the Open-Ended Questionnaire were categorized into meaningful patterns independently after the interviews were transcribed. Next, tallies were used when the same themes emerged throughout the data. Then, the same themes that emerged in different categories were correlated and condensed into meaningful wholes. The tallies for each theme are provided in comparative tables throughout the reporting of the results in Chapter 4.

The hard copies obtained from the transcriptions in the Semi-Structured Interviews were thematically coded (Appendix K), and these themes were compared with the codes obtained by the external participant for reliability purposes (see Appendix L). The transcribed interview data were thematically coded and categorized as done in the analysis of the open-ended questionnaire. The qualitative data were analyzed through content analysis and reported thematically.

The categories that emerged through thematic analysis of the interviews clustered under nine themes parallel to the open-ended questionnaire dimensions. The list of the categories is as follows:

1. Goals fulfillment
2. Perceptions about the resources
3. Perceptions about methods and strategies

4. Learner roles: decision-making and ownership
5. Motivating aspects
6. Discouraging aspects
7. Assessment tools and approaches
8. Influence of instructional approach on learning style
9. Suggestions for further practice

The emerging themes and patterns in the open-ended questionnaire were linked to the interview data, the research questions, and the literature. Data obtained from multiple sources (multiple choice test, essay type test, attitude scale, metaphorical images form, open-ended questionnaire, semi-structured interviews) were compared to reach meaningful conclusions. Triangulation of the interview data and the open-ended questionnaire data were means for meaning-making, and drawing reliable conclusions. Also, based on the triangulation of qualitative and quantitative data, conclusions could be drawn to get more insights of the findings of the attitude scale.

3.10. Limitations of the Study

1. The findings of this study are limited with the data obtained from 144 learners in the Department of Foreign Language Education, METU, and the findings may be constraint with the student profile of that department. This study should also be implemented with learners in multiple departments such as the Department of Science Education.

2. The implementers' dispositions to teaching and learning may have caused a bias during the implementation despite the fact that the threat to internal validity was controlled by having both instructors teach in one experimental and one control group. For instance, it was hard for the researcher to switch from being a constructivist instructor into a traditional instructor in the control group.

3. Although random sampling procedures were conducted in forming the experimental and the control groups, a number of learners might have not wanted to be become a participant in the experimental study, and their perceptions and attitudes reported might be subjective.

4. Judgment about the learning environment the learners were subjected to might have been influenced by the degree of liking the subject, their beliefs about teacher education, learners' overall performance in class, and their relationship with peers and/or the instructor. As such these might have influenced their metaphorical images about classroom management as well.

5. Social constructivist learning environments are enriched through reflections and the decision-making of learners. However, learner choices related to instructional issues were restricted by the researcher and the volunteer instructor in order not to jeopardize the internal validity of the social constructivist implementation, and to have a parallel instruction in classes in the experimental group.

CHAPTER IV

RESULTS

The purpose of this study was to examine the impact of constructivist learning process on the learning process on pre-service teachers' achievement, retention, and attitudes in Classroom Management Course. In this study quantitative and qualitative research methods were utilized to find answers to the research questions. In line with the research questions, this chapter starts by explaining the findings of the multiple-choice test and essay-type test, followed by the attitude test. Next, findings related to the metaphorical images of classroom management that reveal the conceptual change about classroom management the learners went through before and after the implementation are explained. Finally, the descriptive findings obtained through the open-ended questionnaire and semi-structured interviews with learners that reveal their perceptions about the learning environment are explained. The chapter concludes with a summary of the findings in a table.

4.1 Multiple Choice Achievement Test Results

In response to the first research question, findings based on the multiple-choice test prior to the implementation showed that there was no significant mean difference in learner scores between the experimental (M = 33.56) and the control groups (M = 32.93) [$t(92) = .46$, $\rho = .64$]. Thus, both the experimental and the control groups were regarded as similar in their cognitive knowledge about classroom management prior to the implementation. Table 4.1 reveals the total scores learners obtained in the pretest.

Table 4.1
Comparison of Multiple Choice Pretest Scores of Experimental and Control Groups

Group	N	Mean	SD	t value	df	ρ
Experimental	52	33.56	5.49			
				.464	92	.64
Control	42	32.93	7.26			

Hypothesis 1.1: There is no significant difference between experimental and control groups' achievement scores as measured through a multiple-choice test. (Accept)

Descriptive statistics in the posttest results showed that the experimental group that was subjected to constructivist learning environment had a higher level of achievement in both lower order skills items (*los*) and higher order skills items (*hos*). However, this finding is not significant as measured by an independent-samples *t*-test. Table 4.2 reports the data analysis results obtained from the posttest data [t(142) = 1.39, ρ = .16]. Although there is a slight mean difference in the total mean scores of the achievement test in favor of the learners exposed to constructivist learner environments (M = 41.80), in comparison to the control group (M = 40.83), the difference is not significant. This indicates that student achievement did not differ with respect to the learning environment they were exposed to as measured by a multiple-choice-test.

Table 4.2
Comparison of Multiple Choice Posttest Scores of Experimental and Control Groups

Group	N	Mean	SD	t value	df	ρ
Experimental	76	41.80	3.98			
				1.39	142	.16
Control	68	40.83	4.33			

Also posttest scores with respect to lower and higher order thinking were computed (see Table 4.3). Findings show that the experimental group (M*los* = 21.17 & M*hos* = 20.63) subjected to constructivist learning environment obtained higher achievement level in both dimensions, when compared to the control group subjected to traditional instruction (M*los* = 20.62 & M*hos* = 20.22). Although mean scores show a difference in achievement regarding posttest scores for lower and higher

order thinking, inferential statistics as computed by an independent *t*-test indicate that the difference is not significant (*t los*(142)= 1.32, ρ= .19 & *t hos*(142) = .94, ρ= .35).

Table 4.3
Comparison of Multiple Choice Posttest Scores of Experimental and Control Groups in Lower and Higher Order Thinking Items

Group	N	Mean	SD	t value	df	ρ
Experimental (LOS)	76	21.17	2.39	.42	142	0.19
Control (LOS)	68	20.62	2.63			
Experimental (HOS)	76	20.63	2.56	.44	142	.35
Control (HOS)	68	20.22	2.71			

Hypothesis 1.2: There is significant difference between experimental and control groups' retention scores as measured through a multiple-choice test. (Reject)

The next analysis was based on the retention test results (Table 4.4). The retention test scores were compared by an independent samples *t*-test and the findings reveal a significant mean difference (M = 38.5) in favor of the experimental group [t(123) = 2.61, ρ= .01]. Such a finding was also reached by Yıldırım et al. (2000) at lower levels of schooling. A finding of this nature indicates that learning in a constructivist learning environment is more advantageous in the long-run.

Table 4.4
Comparison of Multiple Choice Retention Scores of Experimental and Control Groups

Group	N	Mean	SD	t value	df	ρ
Experimental	66	38.50	3.90	2.61	123	.01
Control	59	36.34	5.40			

Additional analyses were conducted to understand whether the difference was also significant for the lower order and the higher order thinking items (Table 4.5). The retention test scores regarding the lower order thinking show that there is a

significant mean difference between the experimental group (M = 19.26) and the control group (M = 17.60) (Table 4.6). The independent samples t-test results show higher achievement in lower order thinking for the experimental group subjected to constructivist learning environment [*t los*(123)= 3.02, ρ= .00]. As for the higher order thinking items, the retention test scores show higher retention for the experimental group subjected to constructivist learning (M *hos* = 19.24) when compared to the control group subjected to traditional learning instruction (M *hos* = 18.75). However, inferential statistics do not reveal significant results [*t hos*(123) = 1.09, ρ = .28] in the retention for higher order thinking.

Table 4.5
Comparison of Retention Scores of Experimental and Control Groups in Lower and Higher Order Thinking Items

Group	N	Mean	SD	t value	df	ρ
Experimental (LOS)	66	19.26	2.26	3.02	123	.00
Control (LOS)	59	17.59	3.80			
Experimental (HOS)	66	19.24	2.52	1.09	123	.28
Control (HOS)	59	18.75	2.55			

4.2. Essay-Type Achievement Test Results

Hypothesis 1.3: There is significant difference between experimental and control groups' achievement scores as measured through an open-ended essay-type test. (Reject)

The third part of the first research questions tried to answer whether learner achievement changed as measured through an open-ended essay-type test. As mentioned earlier in the literature review about assessment in constructivist learning environment, it was highlighted that achievement preferably be measured through essay-type tests rather than tests that require one standard answer (Tynjälä, 1999).

The pretest findings did not indicate any significant mean differences in the scores that learners obtained before the instructional process commenced. The findings can be inspected in Table 4.6.

Table 4.6
Comparison of Essay-Type Pretest Scores of Experimental and Control Groups

Group	N	Mean	SD	t value	df	ρ
Experimental	63	10.37	2.81			
				-.23	111	.82
Control	50	10.50	3.39			

After the experimental group was subjected to constructivist learning environment, the essay-type achievement test was administered to both groups in the final week of the implementation. Table 4.7 shows the findings obtained from the post test scores

Findings indicate that the experimental group (M = 18.70) scored significantly higher in their problem solving tasks than did the learners in the control group [(M = 16.69); $t(102) = 2.74$, ρ= .00]. The findings suggest that constructivist learning environments are conducive to preparing learners to become better problem solvers, who can synthesize the events and reach conclusions through higher order thinking.

Table 4.7
Comparison of Essay-Type Posttest Scores of Experimental and Control Groups

Group	N*	Mean	SD	t value	df	ρ
Experimental	59	18.70	3.58			
				2.74	102	.00
Control	45	16.70	3.87			

The number of respondents is lower than the sample because not all learners were available when they the instrument was administered.

To sum up, this study found that there were no significant mean differences in the posttest scores of learners subjected to constructivist learning environment and traditional learning instruction when student learning was measured with a multiple-choice test exclusive from the open-ended essay-type test. Lord (1999) also found that the experimental group and the control group did about equally well on content recall items; however, the author found that learners in the constructivist group were better on questions based on interpretation, analyzing, and critical thinking. Critical thinking can be specifically enhanced when learners were encouraged to carry out research, ask questions, and discuss issues in class (Semerci, 2003). On the other hand, findings reveal that knowledge is retained more when learners are exposed to

constructivist learning environments in comparison with traditional learning instruction, which is also supported in other research studies (Tynjälä, 1997; Yıldırım et al., 2001).

An interesting finding in this study is that retention was more effective in the items that measured lower order thinking, whereas research exerts findings in the retention of higher order thinking (Tynjälä, 1997) by using essay-type traditional tests. The findings in this study show that the experimental group was statistically more successful than the control group in the essay-type posttest scores. Nevertheless, there was no possibility to measure retention through an essay-type achievement test. The findings related to learner achievement imply that learners constructed knowledge through constructivist learning activities. Such finding is also revealed by Dochy, Segers, Van den Bossche and Gijbels (2003). The authors found that learners dealing with problem-based learning gained slightly less knowledge in the retention period. Nonetheless, they remembered more of the acquired knowledge. In this study, most probably the experimental group fostered their learning through reflection and the critical thinking and this contributed to retain or acquire knowledge. In sum, the process of development of concepts or their meanings requires the development of a number of functions that entail complicated psychological processes such as abstraction, comparison, and critical thinking. And all those processes cannot be taken on by sole memorization (Vygotsky, 1994b).

4.3. Attitude Scale Results

The second research aimed at finding whether there was a significant difference between experimental (subjected to constructivist teaching and learning process) and control groups' (subjected to traditional instruction) attitude toward Classroom Management Course as measured through an attitude scale. Prior to the implementation, pretest results of the attitude scale showed that there was no significant mean difference in the mean scores of learners' attitude toward CLM course between the experimental (M = 3.08) and the control groups (M = 3.09) [t(137) = -1,09 ρ = ,28]. This finding indicates that the attitudes of learners' were similar in both the experimental group and the control group (see Table 4.8).

Table 4.8
Comparison of Attitude Pretest Scores of Experimental and Control Groups

Group	N	Mean	SD	t value	df	ρ
Experimental	70	3.08	.14	-,54		
					127	.59
Control	59	3.09	.11	-,55		

Hypothesis 2.1: There is no significant difference between experimental and control groups attitudes toward learning about classroom management skills when subjected to a constructivist learning environment. (Reject)

After the implementation, the mean scores were computed for attitude scale (Cronbach Alpha = .94) with respect to the experimental and the control groups. Findings indicate that there is a significant difference between the experimental (M = 3.79) and the control (M = 3.97) groups' attitudes toward CLM Course [t(111) = -2.36, ρ = .02] after the implementation in favor of the control group (see table 4.9).

Table 4.9
Comparison of Attitude Posttest Scores of Experimental and Control Groups

Group	N	Mean	SD	t value	df	P
Experimental	62	3.76	.41			
				-2.36	111	.02
Control	51	3.97	.57			

Although the mean scores of learner attitudes toward the constructivist learning process in the experimental group indicated a rather positive attitude toward learning classroom management, the scores were underweight by the learner attitudes in the control group. The difference here might have resulted from the cognitive load (such as writing reflective diaries) the experimental group had to deal with and the self-awareness they raised through the reflective assignments that indicated that knowledge about classroom management was beyond applying certain rules and routines, and discipline considerations. As such, learners might have felt a greater concern that learning about classroom management entails deep knowledge structures as well as practical knowledge and this might have decreased their attitudes toward Classroom Management Course. To understand the difference

caused by the attitude scale, the descriptive data in the case study design (open-ended questionnaire and semi-structured interviews) may provide us with more explanatory descriptive data (see section 4.5).

4.4. Metaphorical Images Form Results

To understand the conceptual knowledge teacher candidates held regarding classroom management (CM) in response to research question 3, they were asked the following questions prior to the implementation. "What metaphors or images come to your mind when you think about classroom management? Why do you associate that particular metaphor with classroom management?" The teacher candidates jotted down their thoughts on a piece of colored paper provided as part of an activity that aimed at introducing learners and understanding their perception about classroom management. They articulated their metaphorical images and descriptions to the whole class. These metaphors were discussed and reflected on. After the implementation, the same questions were asked to explore the conceptual change they went through after being exposed to constructivist learning environment. Due to time considerations, teacher candidates were expected to write a reflective paper comparing and/or contrasting the metaphorical images they articulated prior to and after the implementation; however, these were shared not with the entire class. The analysis of these write-ups produced four themes: controlling/leading, caring, diverse, and chaotic/unpredictable context.

Results show that most teacher candidates held a traditional view of classroom management that depicts a controlling, ruling and empowering image of CM as an entry behavior. However, after the social-constructivist implementation, and modeling constructivist CM, candidates converted the descriptions of their metaphors into images that show awareness of individual differences and use of leadership skills to enhance collaboration and success. In other words, the control-oriented images converted into learning-oriented images. Below is a brief summary of the findings that represent teacher candidates' metaphorical images of CM before and after the implementation.

Metaphors that Depict Controlling Images

In the pre-test data metaphors such as "Chief, supervisor, coach, police officer, lion, boss, football player, shepherd, and orchestra conductor" were used to describe a control-oriented image of CM. Teachers are described as persons who manipulate students, and possess power and authority. On the contrary, data obtained after the implementation revealed similar metaphors holding different understandings. For instance, while the coach or orchestra leader was seen as a ruler bringing harmony and obedience prior to the implementation, post results depict these with a leadership role that indicates awareness of individual differences and needs, and who act accordingly to these to enhance a mutual goal through successful collaborative work (see Table 4.10).

Table 4.10
Metaphorical Images that Depict Controlling/Leadership Aspects

Images PRIOR to the implementation	**Images AFTER the implementation**
Coach (id 16) uses tactics to make the players become successful.	Coach (id 16) is the motivator and facilitator. S/he provides cooperation among all members to enhance the goals. The roles are divided justly and everybody in the play is an active participant
Football match (id 28) The teacher is the referee and students are the players.	Football match (id 28), both the referee and the players come together on the field to receive satisfying results in a limited time. The teacher is monitor, creates enjoyable, effective learning environment. Cooperation is emphasized over competition.
Football play (id 36) contains knowledge of tactics that suits the players and promotes their success.	Football player (id 36) is managing a team regarding individual differences, and their characteristics. Teachers need to be fully equipped with knowledge about classroom management to promote success.
Football game (id 93) is team game. Responsibilities are shared	Football play (id 93) multiple roles for students and teachers, cooperation is the key role
Team coach (id 26) is a leader of a group that controls the team.	Team coach (id 26) has good organizational skills and is aware of the differences in the team. The success of the players is dependent on the skills of the team coach.
Coach (id 67) deals with problems, leads to success	Coach (id 67) considers learning style, motivates, and is aware of student differences. Effective learning is the goal.
Conducting an orchestra (id 11) being precise and punctual of what to do during the play.	Orchestra conductor (id 11) prepare for harmony by gaining the players' cooperation. The orchestra conductor has the skill for problem solving.
Orchestra conducting (id 33) the play needs to be well planned.	Orchestra conductor (id 33) who feels comfortable about his or her own skills, and has essential experience and knowledge to enhance classroom goals.

Table 4.10 Continued	
Orchestra (id 22) in which one wrong tune spoils the harmony. The teacher is responsible for directing an organized environment.	Orchestra (id 22) Diversity of instruments. These need to be used regarding individual differences and aptitudes. The orchestra chef uses the time efficiently for optimal learning by using organizational skills.
Orchestra conductor (id 29) acts like a teacher who organizes the class for harmony. There is no interaction between players. Rules are obeyed for order.	Orchestra conductor (id 29) cares about individual differences, seeks ways to reach students, makes learning more attractive to maintain a healthy classroom environment.
Orchestra leader (id 10) manages for harmony and smoothness. No obedience to rules set by leaders leads to cracks in the management.	Orchestra leader (id 10). No change is the images about classroom management.
Leadership (id 32) The teacher is the leader and tries to manage the classroom in an organized way.	House (id 32). The classroom is like a house in which tools have certain places. There is order in class, and everyone respects these.
Tree (id 64) Branches and leaves form a tree. Different aspects in class meet to construct classroom management.	Tree (id 64) diverse branches from setting rules to gaining student cooperation, and designing the classroom environment are all linked to construct effective classroom management.
Tree (id 100) Teacher as tree and students as branches contact with one and other like the branches of a tree.	Football team (id 100) and classroom has goals to achieve. To be successful there needs to be cooperation among the players. Interactions between the coach and the players are important. Also, interactions among players are important to be successful. There are different rules and tactics used to enhance the goals of the course (goal-orientedness).
Tree (id 72) teacher transfers knowledge to branches/ provides order. Teacher is perceived as knowledge transmitter and person who provide order.	Tree (id 72) The teacher is equipped with different skills to provide an effective learning and teaching process. There is diversity, and the teacher needs to enhance student teacher collaboration to be successful. Different nourishments from the soil and minerals enrich the students. Variety of activities, and teaching methods and strategies help the class survive.
Brain (id 37) controls the body. Classroom management controls the classroom behavior.	Horse cart (id 37) The teacher holds a halter for leading the horses. The halter is rather loose, and this provides freedom for both the horses and the horseman. Consequently, students collaborate under the teacher's leadership. There is a balance that is neither an authority nor a laissez-faire approach. The horse-rider does not suffocate horses, but gives them freedom that balances the manners.
Lion (id 116) Teacher as manager.	Traffic policeman (id 116) clear rules, safe environment, and responsibility on students (Note: depicts chaotic environments as well).
Cooking (id 43) vegetables cook at different rates. Treat differently regarding diversity of students.	Cook (id 43) The cook knows different ways of cooking a meal. The teacher knows about student differences, and is ready for unpredictable situations. The cook organizes the environment and cares regarding the differences.

Table 4.10 Continued	
Boss (id 92) loving caring teacher.	Boss (id 92) collaborates, gains students cooperation, decision-maker regarding context.
Theatre play (id 94) The teacher is the director of the play, and the students have different roles.	Theatre play (id 94) The teacher plans, organizes, and carries out issues to have a healthy learning environment. The students and the teacher collaborate to enhance an effective learning and teaching process. The director and the players are working diligently in harmony to succeed.
Conductor (id 69) enables the harmony and manipulation of student behavior.	Conductor (id 69) enables understanding of learning differences; smooth flow of teaching and learning process; holds a cooperative responsibility with families; is ready for unpredictability and creates effective learning contexts, and safe environment.
Car (id 75) one missing mechanism hinders the operation of a car. Organization of a classroom, and different techniques are linked.	Conductor (id 75) operates collaboratively with all the musicians. The conductor designs different tasks and group work to be successful. The conductor considers time management, and activity management by setting certain rules and routines to avoid disruptions.
Ocean (id 79) lodges various animals. Diverse student characteristics (Note: depicts diversity as well).	Coach (id 79) is responsible in providing healthy learning environment. The coach is equipped with different knowledge about different characteristics and learning styles, and knows how to enable the students to learn knowledge. The prize is to pass the class and receive high grades (* Depicts goal-orientedness, too).
Shepherd (id 63) is a ruler, and administrator.	Shepherd (id 63) shows the way that is safe and fruitful for development of the students. The sheep cooperate with shepherd to reach their goal.
Film studio (id 34) The director sets rules. Success depends on the actors or the students in the classroom.	Governing country (id 34) requires flexibility to match the classroom environment. The teacher plans regarding people differences, needs, and is ready for unpredictability. Good governance is based on cooperation with other people involved. To enhance effective classroom management, the teacher cooperates with other teachers, students, and parents .
Supervisor (id 19) the teacher is like a supervisor in a hospital who supervises students interests and needs.	Football team (id 19) The coach monitors the players to create an effective environment to reach the goals. The teaching and learning process is monitored by the coach.

All metaphorical concepts are reported as written by learners in English

The literature on metaphors about classroom management indicates a tendency of a change from controlling to leadership type of images. For instance, Weinstein, Woolfolk, Dittmeier, and Shanker (1994) also identified metaphors that depicted group leaders who guide, steer, direct, and coach. The metaphors had human and non-human conceptual meanings such as navigator, ringmaster, aerobic instructor, captain, acting coach for "human" metaphors and metronome, ringmaster, river boundaries, and on-switch of a well-oiled machine for non-human metaphors.

In this study the metaphors mainly relate to a team leader or the activity in which a team operates together under the leadership of a boss, orchestra chef, coach, or coach.

Metaphors that Depict Caring Images

Pre-test results indicate metaphors that show a caring, but yet a controlling image. Metaphors that match this group are "mother, peace provider, butterfly, flower, and gardener (Table 4.11).

Table 4.11
Metaphorical Images that Depict Caring Aspects

Images PRIOR to the implementation	**Images AFTER the implementation**
Butterfly (id 25) needs to be handled with care. It is very vulnerable.	Butterfly (id 25). Learners are as fragile as butterflies. The teacher should provide caring environments so that learning occurs joyfully and efficiently. There should be a close relationship between the teacher and the butterfly to provide an efficient learning environment, distant from any threats
Peace (id 40) A peaceful classroom environment.	Shopping centre (id 40) variety and harmony for learning (depicts diversity). There are rules that cause order (put detergents together). Shopping is pleasant and enjoyable. Therefore, students enjoy and participate in the different class activities.
Snow flake (id 66) is like puzzle.	Snow flake (id 66) reminds a smooth disciplined environment. Each snow flake resembles different characteristics and learning styles. While it snows they construct a well-arranged smooth view. There is an orderly appearance constructed by different shapes_ individual differences are respected.
Window (id 99) Having ideas about management is like looking through a clear window. The teacher has clear ideas about how to manage the class.	Window (id 99) Knowledge about classroom management is like looking through a clear window. Having effective instructional skills, dealing with rules, managing time, and misbehaviors is easy because CM knowledge provides teachers a way to see clearly.
Mothering (id 9) The teacher observes the class and sees the work and achievement she provided for the students. Good behaviors of kids show the good mothering or the management skills of her.	Navigating (id 9) The teacher needs skills and talents to direct a ship, so education is essential. For good management the teacher needs knowledge about good teaching skills, knowledge about how to handle with problems to minimize disruptions or hinder the flow of lessons. E.g., in a stormy weather s/he knows how to handle with problems effectively, she has that skill.
Cook (id 95) classroom management is like using a cookbook (instruction)	Cook (id 95) Teaching is not only about explaining, but it is also about motivating the students and gain their cooperation. Knowledge about strategies help coping and provide ways for giving learners choices.

Table 4.11 continued	
Ecstasy (id 91) enables the teachers to be active and manage the classroom exactly as they want. There are no hesitations or doubts. The teacher in power that nobody can resist.	Ecstasy (id 91) is like knowledge about classroom management. This helps the teacher to be more self-confident, and comfortable. The purpose is to enhance effective learning. Misbehaviors are not biggest the problematic issues for you.

All metaphorical concepts are reported as written by learners in English

The findings indicate that the teacher is like the puppet player who takes firm holds of the cords, and displays a caring attitude to have a quiet, well-controlled classroom. She or he takes all responsibility to take care about the classroom and provides them with the essential skills to grow. Images of caring in the pretest results have been converted into images that reflect variety, and diversity for classroom learning. While for the butterfly image "handle with care" and "smoothness" is articulated before the implementation, this image turns into an image that indicates a learning environment exerting "joy and efficiency" in tasks. The next set of metaphors depicts diversity (see Table 4.12). Metaphors that depict caring are also mentioned in the literature (Weinstein et al., 1994). However, Weinstein et al's metaphorical images are more depicting that of a protector or parent who nurtures and supports such as a mother bird teaching her babies to fly; a father, a therapist, mentor, role-model, and friend.

Metaphorical Images that Depict Elements of Diversity

This group's metaphoric images are "gardening, cooking, greengrocer, country, shopping center, and ocean." All represent differences and diversity in the classroom. It is noteworthy that prior to the implementation the images of diversity are associated with images of "good or bad" in the greengrocers shop, or images that reflect "orderly or disorganized" environments in shopping centers. Rather than labeling characteristics of evil or good, after the implementation, images of diversity reflect diversity in student needs, in their personality, and in which the gardener or the cook provides ways for decision-making and cooperates with parents and experts to enhance student learning.

Table 4.12
Metaphorical Images that Depict Elements of Diversity

Images PRIOR to the implementation	Images AFTER the implementation
Cooking (id 89) patience and care for diversity/ trial error method.	Cooking (id 89) All students are different and the teacher should beware of those individual differences. Organization of classroom environment, setting rules and coping with misbehaviors requires cooperation with experts and parents and this facilitates the teaching and learning process.
Flower garden (id 85) gardener knows the foundations of gardening.	Gardener (id 85) holds awareness of diverse student needs, knows about physical arrangement. Classroom management is about having a place surrounded with sunshine and a fence.
Greengrocer (id 80) The classroom is like a greengrocery full with good and bad students. Greengrocer knows how to retain good vegetables.	Greengrocer (id 80) There is diversity in the greengrocery, and he has to provide effective education to all kinds of differences in the class. This can be ethnicity, race or gender.
Shopping center (id 73) store for all sorts of information for an effective learning environment.	Hyper store (id 73) There is diversity in the classroom, and there are learner differences. The management deals with the organization, and pleasure for customer. The manager needs to gain the students' and parents' cooperation to have an efficient (shopping) learning environment far away from misbehaviors.
Keyboard (id 45) of a computer. There are a lot of buttons.	Keyboard (id 45) A computer is nothing without a keyboard. It helps you to operate the computer efficiently and use different programs. The teacher needs to hold knowledge of diverse learners and knowledge about how to manage recitations, group work and other issues by using different skills/strategies to have effective classrooms.
Country (id 90) A classroom holds people with differences, and the teacher needs to govern this class.	Country (id 90) The teacher needs to know about the foundations of classroom management and teach according to individual differences and characteristics to become successful.

Metaphors that Depict Chaotic or Unpredictable Contexts

A few of the learners have associated CM with that of a battlefield, fight, and Columbia rebellion (see Table 4.13). These images depict how METU teacher candidates view a classroom environment: a place that is unpredictable and where lots of disruptions occur. The image of battlefield prior to the intervention depicts an understanding that the teacher needs to use good management skills so that success can occur for learning and teaching processes. However, the same image refers to using the right skills and materials regarding student needs and choices given to individuals to enhance learning. The Columbia rebellion image converts into having a collaborative classroom that holds diverse individuals, and an environment in

which individual differences are respected. Morine-Dershimer and Reeve (1994) examined the images of a lesson management in relation to pupil engagement in lessons taught. They found that in more engaging lessons, teachers' images of engagement emphasized pupil contributions to lesson progress, while in less engaging lessons, teachers' images of management emphasized teacher control of lesson progress combined with teacher uncertainty about lesson direction. The uncertainty emphasized in Morine-Dershimer and Reeve's study indicates the instructional process, while in this study uncertainty indicates uncertainty about learner attitudes and how to cope with them prior to the implementation, and certainty about what instructional methods and strategies to use after the implementation.

Table 4.13
Metaphorical Images that Depict Chaos or Unpredictability

Images PRIOR to the implementation	**Images AFTER the implementation**
Traffic/police officer (id 82) if the officer manages the traffic well there will be no jams.	Traffic/ police officer (id 82) The flow of the traffic is in the hands of the officer. However, the teacher needs to know the foundations of having classroom environments distant from misbehaviors. The purpose is to go on with the instructional program in a smooth way.
Driving license (id 41) enables you to act carefully, and think of its consequences.	Driving (id 41) Knowledge of diverse strategies and rules avoids the teacher from failures. One mistake may lead to problems.
Box of Pandora (id 42) Foundations in classroom management will help you to handle the unknown professionally	Box of Pandora (id 42) Learning about classroom management skills and strategies enable teachers to use them during the teaching process. The Pandora is not unknown. (*Learning about CLM)
Battle field (id 31) The teaching/learning process is like a battle between the teacher and the students. The skills of the teacher is important for success.	Battle field (id 31) The classroom is a battle field that requires the students and the teacher to use the right skills and materials to enhance learning. The teachers' role is to consider the needs of students and should make decisions about different dimensions in the classroom. Like how to gain students' cooperation, how to manage recitations or group work, how to organize the classroom, which all indicate the struggles or battle of the teacher.
Columbia (id 87) Rebel between governments and groups. No peace observed.	Columbia (id 87) collaboration among parties. Teacher and students collaborate. Individual differences are respected. A healthy learning environment.
White (id 76) symbolizes the unknown and attracts the idea of discovery.	Playing the piano (id 76) requires expertise, practice, effectiveness. Effective classroom management requires engagement in presentations, demonstrations, preparation of portfolios before playing in the concert. (*this metaphor also matches with learning about classroom management)

Beside all the metaphorical images reported above, there was a set of metaphors that depicted goal-orientedness. For instance the images 'bridge and chain' show a movement from one side to the other as reaching a goal. While scuba-diving and catalyst depict an image of reaching out for a goal and spending some effort to enhance that particular goal (see Table 4.14 for details).

Table 4.14
Metaphorical Images that Depict Goal-Orientedness

Images PRIOR to the implementation	Images AFTER the implementation
Bridge (id 8) CLM is like a bridge over a river. One can not achieve the aims without knowing the foundations.	Act of passing though the bridge (id 8) is more complex than the bridge.
Scuba diver (id 65) needs to know to have skills to survive. There are a lot of responsibilities because depth is unknown	Scuba diver (id 66) The ocean is like students with different cultures, intelligences that are unsolved and mysterious. The teacher's task is to discover the depths by being helpful. To enhance this teacher needs knowledge about the foundations of classroom management, should collaborate, and be prepared to discover and advance in the ocean.
Catalyst (id 84) gives speed to the ongoing action. Classroom management techniques provide the teaching process to occur faster and more organized.	Catalyst (id 84) The main goal of teachers is to teach. In order to do this effectively teachers need awareness of classroom management strategies. Catalysts gauges the gap between the mandated time and the actual learning time, and using the CLM strategies as a catalyst to realize effective learning to achieve the goals.
Chain (id 78) links forms of teaching: effective management causes effective use of teaching strategies.	Chain (id 78) links are not limited to effective instruction. Chain provides endurance, fulfillment of goals, efficient use of materials, and flow of activities
Plus (id 70) empathy, harmony, interaction, and pleasure in teaching impacts learning and teaching process	Plus (id 70) No change. id 70 held a constructivist approach toward classroom management and retains the same perspective)

In brief, results show that most teacher candidates held a traditional view of classroom management that depicts a controlling, ruling and empowering image of CM as an entry behavior. Such finding implies that learners came from schools that depicted a traditional type of image of classroom management. They saw the classroom as a battle field or the coach as the leader who controls (or disciplines) learners and wanted to learn strategies to cope successfully with the misbehaviors. Findings indicate that after the social constructivist implementation, candidates converted the descriptions of their metaphors into images that show awareness of individual differences and use of leadership skills to enhance collaboration and

success. This might imply two views. First, it may be that the constructivist learning environment raised such awareness through the tasks and activities practiced from the first hand experience. Also, the instructors' attitude toward classroom management, especially in the management of instruction, discussions and group work may have been a model for the experimental group and influenced their metaphorical images about classroom management. Morine-Dershimer and Reeve (1994) suggest that the metaphoric language used by prospective teachers may bring tacit beliefs about teaching and learning to the surface and question them. Consequently, having focused to different metaphorical images in CMC and an understanding of how to create effective learning environments, learners may adopt these into their knowledge construction about how to deal with classroom practices (Weinstein et al, 1994). The second view could be that the resources utilized in Classroom Management Course might have impacted on such conceptual change. The narrative cases and theory and research presented in their resources may have been contributive to such change. The learners may have critically analyzed their past knowledge constructions with the ones they newly learned through dialogue, reflective writing, and intensive reading. Martinez et al. (2001) found that many of the teachers shared a traditional view of teaching and learning in their metaphorical images that depicted learning as a transmission of knowledge. Ultimately, the prior metaphors articulated may indicate that the learners came to class with these dispositions. However through constructivist learning activities, like Weinstein et al. (1994) state, the learners were encouraged to utter their conceptual understandings about classroom management that did not originate in their textbooks, and this affirmed their philosophies related to CM and enabled self-examination of what they valued. The next section sheds light over the perceptions of learners about the learning environment they were in. The findings are reported in response to research question 4.

4.5. Open-ended Questionnaire Results

The fourth research question aimed at understanding how learners perceived the impact of constructivist learning process on their development in classroom management pedagogy. The findings in the open-ended questionnaire reveal

similarities between the perceptions of the experimental group and the control group with respect to their perceptions about the learning environment they were in. Both groups revealed a positive attitude toward the learning environment, and indicated that they enjoyed attending CMC. Such similarity might be found on the grounds that in the control group the learners were satisfied with the learning they went through and took the instructional process as granted. Findings pertaining to each dimension in the open-ended questionnaire are revealed in comparative tables in the next section. The themes that emerged during the analysis of the questionnaire are categorized and those are reported with the number of tallies they appeared in the data based on learner reports.

Perceptions About CMC Overall

To understand whether the goals of the Classroom Management Course (CMC) were being fulfilled during the process of the implementation, both the control and the experimental group reported their past perceptions before attending CMC, and their present perceptions and the reasons behind their reports. The findings are revealed in Table 4.15 in a condensed structure.

Table 4.15
Learners' Perceptions About CMC Overall

Theme	Experimental Group	Control Group
Past perceptions about the course	*Positive (17)* - Learning CLM skills (16) - Useful for future purposes (20) - Enjoyable learning environment (14) *Neutral (20)* - Limited to discipline-based issues (3) - Limited to some techniques in the literature (1) *Negative* - EDS classes boring (12) - EDS classes theory-based (6)	*Positive (14)* - Useful for future purposes (17) - Learning CLM skills (15) - - Enjoyable learning environment (5) - Learning how to motivate students (1) *Neutral (13)* - Theory not applicable to local context (3) *Negative* - EDS classes boring (5) - EDS classes theory-based (2)

Table 4.15 Continued	- EDS classes have too much work load (4) - EDS classes have useless content (3); easy to forget (1); difficult (1)	- EDS classes time-consuming (1); many student presentations (1); useless (1)
Present perceptions about the course	*Positive (27)* - Expectations fulfilled (55) - Essential for teacher education (future purposes) (30) - Knowledge about CM skills attained (30); theory (5) - Build-awareness of potential CM problems (2) - Positive teacher attitude (7) - Relaxed learning environment (2) - Flexible curriculum (2) *Positive about active learning because:* - Enjoyable (19); conventional (8) - Learning is based on case studies (7); hands-on practice (6); variety of activities (4); cooperative work (3); peer teaching (3); learner-centered (2); creative thinking (2). *Negative* - Too much theory (2) - Nothing fulfilled yet (2) - Not applicable to local context - Cases are artificial (1) - Not educative (1) - Lack of field practice (1) - Lack of motivation in class (1)	*Positive (20)* - Expectations fulfilled (19) - Essential for teacher education (14) - Useful for future purposes (13) - Enjoyable environment (6) - Theory and practice is integrated (8) - Variety of activities (6) - Broadened our vision about CM (5) - Build awareness about CM (3) - Memorization still required (2) *Learned* - How to deal with CM (12) - About CM in detail (4) - How to motivate students (1) *Neutral (12)* *Negative (15)* - Theory-based (5) - Theory not applicable to local context (3) - Presentations (1); useless (1) - Memorization required (1)

Findings in Table 4.15 indicate that both groups had similar perceptions about CMC before they attended it. They mainly focused on the aspect that focuses the importance to learn about CMC to become effective teachers. There is evidence in the literature that says that knowledge about classroom management is perhaps rated as the most important subject matter to be learned during preservice teacher education (Butchart, 1998; Stallion & Zimpher, 1991). Yet, the dispute about how to deal with the pedagogical development of educators is still critical (Lunenberg & Korthagen, 2003). The learners in the experimental group reported that they were positive that the goals of the course were attained due to the active learning environment they were in, while the control group focused on what they learned.

Such finding implies that the experimental group is constructing knowledge through active learning, and the control group through the theory they were introduced with. A similarity between both groups' perceptions is that both of them were satisfied with their learning and enjoyed the learning process. As for the negative perceptions, few learners in the experimental group reported that it course was theory-based, and that nothing was fulfilled yet. While, a remarkable number of learners in the control group reported a negative perception, and indicated that the course was theory-based.

Perceptions of Learner Role

To examine whether the learners could perceive what their roles were in CMC, they were asked to reflect their perceptions about their roles before, during and after they attended CMC. In both groups, the learners' responses indicated that they had difficulty in defining their roles. I assume that since they came generally from traditional learning environments in both groups they had difficulty in perceiving themselves other than students who were required to do what they had been told. The roles reported can be seen in the next table (see Table 4.16).

Table 4.16
Perceptions About Roles

Learner Roles	**Experimental Group**	**Control Group**
PRIOR	-Reading course pack (17) -Skipping reading assignments occasionally (6) -Consider oneself as teacher (2) -Reading for participation in group discussions (2) -Instructors' decision (1) -Reading provides experience (1)	-Reading course pack (5) -Skipping reading course pack (5) -A student (2) -An observer (1)
DURING	-Active participant (19); in discussions (8) -Perceive oneself as teacher (10) -Collaborator with classmates (4) -Pleasure-taking (3) -Student (2); responsible learner (1); demonstrator (1); presenter (1); free speaker; critical thinker (1); session constructor (1) *Negative* -Lack of communication with peers (1)	-Active participant (18) -Perceives oneself as teacher (3) -Student interacting with peers (1); sharing knowledge (1); passive learner (1); problem-solver (1) -Enjoying sessions (4) -Varying roles as learner (2) -Construct own philosophy of CLM (1) *Negative* -Need to share more with classmates (1)

Table 4.16 Continued		
AFTER	-Reflective writer (18); considers advantages and disadvantages (1); synthesizes (3) and evaluates (2) sessions. -Works on portfolio (6); time-consumer (5)	-Perceives oneself as teacher (9) -Synthesizes topics (3) -Revises materials (2) -Collaborator in activities (2) -Information processor (1) -Does assignments (1) -Conventional learner (1)

When the themes in Table 4.16 are examined closely it can be seen that similar themes emerged regarding learner roles. When the tallies are compared between both groups, it can be seen that the experimental group took more ownership to do the readings than did the control group. Another interesting finding is that that the learners in the constructivist group perceived themselves as teachers during the sessions, while the control group perceived themselves so after the sessions. For instance ID 17 reported: "Everyone has its own characteristics and strategies (in teaching). I always considered myself as a teacher. A teacher candidate who knows utilizing the guidance provided by a more competent teacher." Another interesting finding is that both groups consider themselves as active participants in the sessions. However, the experimental group adds their active participation as being actively involved into discussions and reflecting on their learning. This finding implies that that the learners are in frequent interactions with their peers during sessions, which indicates that constructivist learning environments were conducive to bringing a different culture into the classroom.

Perceptions About Fulfillment of Goals

The third theme in the Open-Ended Questionnaire aimed at exploring whether the learners' goals with regard to attending CMC were fulfilled. Table 4.17 reveals a condensed form of learner reports obtained from both groups. The tallies regarding the themes emerged indicate that both groups were positive that they fulfilled the goals of the course. This finding is specifically related to raising awareness about the teaching profession.

Table 4.17
Goals Fulfillment in CMC

Goals	Experimental Group	Control Group
Goals Fulfillment	*Positive (68)* -Building awareness about teaching profession (9) -Gaining confidence in teaching (3) -Applicable to classroom practices (2) -Discussions as indicators of goals enhanced (3) *Negative* -Need for practice (2) -Too much time spend on specific topics (1) -Not applicable to local context (1)	*Positive (40)* -Building awareness about teaching profession (3) -Gaining confidence in teaching (3) -Theory-wise fulfilled (2) -Learning new strategies -Consider oneself as teacher (1) *Negative (1)* -Need for practice (8) -Need for more visuals (3) -Not applicable to local context (2)
Reasons behind fulfillment	*Learning environment* -Student presentations and demonstrations (9) -Teacher effectiveness (8)-Methods used (7) -Active learning (3) -Case studies (3) -Collaborative work (2) Reflective papers (2); critical thinking (1) -Student-centered learning environment (2) -Video programs (1) -Motivating context (1); high level of participation (1)	*Learning environment* -Collaborative/group work (5) -Simulations (4) -Variety of activities (5) -Solving cases (4) -Authentic activities (1)
Expectations about the goals	-Become an effective classroom manager (18) -Become an effective teacher (11) -Learn about CM strategies (16) -Gain confidence in the teaching profession (2) -Cope with misbehaviors (1)	-Become an effective classroom manager (21) -Become an effective teacher (11) -Cope with misbehaviors (6) -Learn about CM strategies (5)

While the themes in the constructivist learning group emphasized the learning environment and group tasks as the main indicator in enhancing the goals, the traditional group referred more to the case studies they needed to solve. Id 1 reported that she had taken the first leap in becoming a good classroom manager. Id 22, on the other hand, wrote that this course enabled her to use many of the issues learned in her professional life. Especially, the content of CMC was not overloaded with theory-based lectures. She stated that there were many examples that helped them to relate or translate these into future practices. A male student in the control group reported his satisfaction with CMC as well. He questioned whether there was no sufficient

number of classroom management research studies in Turkey to be closer to the cultural context. He further pointed out that a course on classroom management might not be effective without any field experience.

In addition to the themes above, learners reported their expectations about the goals. In the experimental group the main emphasis was on the will to become effective classroom manager, an effective teacher, and learn more about classroom management strategies for effectiveness. On the contrary, the control group also emphasized becoming an effective manager and teacher, but they tended to learn more coping strategies to enhance this effectiveness.

Perceptions About Materials and Resources Used

As part of the case study, it was essential to know whether the materials or resources used in CMC were appealing to the learners' needs from many perspectives. The themes emerged as activities and the reading pack used in CMC. Table 4.18 summarizes those themes reported.

Table 4.18
Perceptions About the Resources Used

Resources	**Constructivist Group**	**Traditional Group**
Activities	*Activities* *Positive* -Enjoyable (12) -Educative (7) -Interesting (7) -Well-designed (4); well-organized (4) -Cartoons facilitate understanding (2); meaning (2) -Student-centered (1) *Case Studies* -Useful (20) -Supplement knowledge construction (10); facilitates understanding theories (2) -Enjoyable (5) -Authentic (3); current issues (1); -Promotes problem solving (2); creative thinking (1) -Well-chosen (2) -Reflect readings (1)	*Activities/case studies* *Positive* -Useful (11); educative (4) -Enjoyable (10) -Interesting (7) -Foster practice (4) -Foster development in CMC (3) -Authentic (5) -Emphasizes critical issues (3) -Variety of activities (2) -Essential (2); effective (2); clear (2); helpful (1);

Table 4.18 Continued	Negative -Difficulty in understanding supplementary materials (2) -Peer-teaching activities (2) -Random grouping (1) -Too few activities (1) -Discouraging compulsory activities (1)	
Reading pack	*Positive* -Suitable (26); essential (5) -Clear language (25); easy to read (17); fluent (9); understandable (9) -Educative (13) -Interesting (8) -Variety of cases (5); useful (7); authentic (3) -Authentic (5) -Provides different perspectives (4) -Motivating (3) -Well-organized (3) -Informative (3) -Enjoyable (2) -Helpful summaries (2) -Variety of tasks (1); problem-solving tasks (2) -Self-evaluation opportunities (1) -Student-centered *Negative* -Lengthy chapters (7) -Too simple (6) -Boring (3) -Not-context specific (2) -Not clear (1) -Useless (1)	*Positive* -Useful (6) -Enjoyable (4) -Interesting (4) -Authentic (3) -Helpful (3) -Educative (2) -Essential (2); effective (2); -Clear (2); appealing (1); *Negative* -Too few cases (2) -Not sufficient (1) -Boring (1) -Movies boring (1) -Need for student choice (1)

Findings regarding learner perceptions about the course materials indicate that the learners concentrated on the usefulness of the materials, the problem-solving activities (or narrative cases) included in the textbook, and the level of understanding the language linguistically. While the constructivist group referred to cognitive, affective, and technical (length, clarity of language) issues, the traditional group referred to cognitive aspects mainly.

These findings indicate that the experimental group was doing more in-depth reading of the course pack and the language and the organization of the textbook used was appropriate to comprehend the content. Although minor in number, the experimental group complained that the chapters in the textbook were too lengthy, and the only two learners indicated a need for more cases to be presented. To sum,

both groups had mainly a positive attitude toward the resources used and thought that the activities done in CMC were effective.

Preferences Regarding Course Notes for CMC

As for learner expectations related to course notes for CMC, findings can be seen in Table 4.19

Table 4.19
Preferences About Course Notes for CMC

Experimental Group	Control Group
-Satisfied with current situation (20)	-Satisfied with current situation (19) -Chapter summaries are useful (1); OHP transparency summaries are useful (1)
Need for: -More case-based studies (9) -Shorter reading pack (7) -One main resource only (4) -Authenticity in terms of Turkish context-specific textbook (4); real life experiences (2); -More visuals (3) -Clearer content (3) -More practical content (2) -Less theory (1) -Sole summaries (1) -More informative knowledge(1) -More role plays (1)	*Need for:* -More Turkish specific content (6) -Sharing all transparencies with students (3) -More authentic cases (2) -More detailed discussions of cases (2) -Samples about mixed-graded classes (1) -Explaining teaching methods (1)

As it can be seen in Table 4.19 the learners in both groups expressed their satisfaction with regard to the present resources they used in their CMC. Such finding may imply that the experimental group was satisfied with the resources to the extent how they undertake them in class through a variety of activities. As for the control group their satisfaction may imply that they are satisfied with the lectures offered by the instructors because they indicated that they liked the instructor to share the transparencies with them. On the other hand both groups indicated their needs with regard to the course notes they used. While the constructivist group was requiring a shorter reading pack that contained more case studies, the traditional group suggested using materials that held local specific authentic examples. It is

interesting to see that the latter wanted to be provided with summaries regarding the topics they undertook.

The next item was to understand the perceptions of both groups with regard to the methods and techniques used in CMC. Table 4.20 shows a comparative summary about learners' perceptions about the methods and strategies used.

Table 4.20
Perceptions About Methods and Strategies Used

	Experimental Group	**Control Group**
Cognitive aspects	*Active learning* -Useful (22) -Opportunity for practice (12) -Self-directed (3) *Effective learning through* -Group work (15); is useful (10) -pair work (10) -Strategies used (9) -Sharing of experiences (7) -Peer teaching (7) -Discussions (9) -Diverse learning strategies (2) -Role plays/simulations (2)	Overall -Effective (18) -Useful (2) -Activities relate theory and practice (2) Case Studies -Helpful (5) -Opportunities for practice (4) -Suitable for learning (2) *Discussions* -Helpful (5) -Suitable for real life situations (4) -Group responsibility building (2) -Facilitate problem-solving (2) -Relate learning to higher cognitive skills (2) -Enable sharing of experiences (2)
Affective Aspects	-Enjoyable (11) -Interesting (7) -Motivating (3) -Fruitful (1)	-Enjoyable (2)
Other	-Novelty and variety (3) -Teacher is facilitator (1) -Theoretical knowledge construction (1)	- Teacher presentations effective (2) - Teacher presentations useful (2) -Transparencies effective (2)
Suggestions	-Reduce library search (8) -Adapt active learning to all classes (2) -Group-work causes chaos (4); Group-work overemphasized (2) -Intra-personal skills ignored (2)	-Stop library search (3) -More student presentations (2) -More simulations (2) -More debates (2)

Findings show that learners in the experimental group were satisfied with being exposed to active learning environments. They, specifically, emphasized that

the group work, discussions, and sharing of real experiences were effective in their learning process since it helped them to relate theory to practice. The culture established through constructivist learning activities helped learners to link pedagogical theory and practice into their knowledge constructs. It enabled them to make deep analysis to question, to look for causes and contexts, and in return defend their views with dependence on the theory they read and evaluated and increased their motivation to become self-regulated learners (Spilkova, 2001). However, the organizational process for small group work was apt to disorder due to overcrowding. This indicates that constructivist learning may be more successfully implemented in classes with smaller number sizes. Thus, class size emerges as an environmental contextual factor that influences the dynamics and the culture in the class in numerous ways.

In the control group, on the other hand, learners were satisfied with the types of methods and techniques they were exposed to. They, too, believed that the case studies, and the group discussions they held were means to gauging theory and practice. It is interesting to see that learners referred to the effectiveness of teacher presentations skills in the control group, while it is not detected in the experimental group, which proves that the instruction in the experimental group was learner-centered.

Perceptions About Motivating Aspects in CMC

As regards learner motivation, Table 4.21 indicates that the experimental group was mostly motivated by their motivation to learn, the positive learning environment, and the positive attitude of the instructors. On the contrary, the control group emphasized their motivation to learn, the positive attitude of the instructors, and the essential information provided through the course pack (see Table 4.21).

Table 4.21
Perceptions About Motivating Aspects in CMC

	Constructivist Group	**Traditional Group**
Classroom Environment	-Friendly, positive (10) -Instructional approach (6) -Models future practice (4) -Meaningful learning (2)	-Essential information (14) -Positive (4) -No threats on assignments (5) -Well-organized course pack (3)

Table 4.22 Continued		
Tasks	-Variety (8) -Active learning tasks (6) -Simulations/role plays (4) -Sharing of experiences (2); responsibility (1) -Collaborative learning (2)	-Variety (3) -Authentic learning activities (5) -Orderly presentation of topics (2) -Enjoyable (1) -Activities in general (1)
Learner Factor	-Motivation to learn (13); curiosity about the tasks (3); -Freedom of choice (3) -Responsible learner (2)	-Motivation to learn (22) -Responsibility (1)
Instructor factor	-Positive attitude (21) -Enthusiastic (5); energetic (2) -Cooperative (4); - Good model (3) -Consistent with what she preaches (3)	-Positive attitude (18) --Good model (1) -Enthusiastic (1)

Perceptions About Discouraging Aspects in CMC

The discouraging factors, on the other hand, were mostly related to reflective diary writing assignments and portfolio preparation for the experimental group, while assignments were regarded as a minor discouragement for the control group. The learners in the former group complained that writing reflective papers and summaries were time consuming and that they were discouraged by preparing their CM portfolio. The traditional group did not reveal any specific discouragements (see Table 4.22).

Table 4.22
Perceptions About Discouraging Aspects in CMC

Experimental Group	**Control Group**
-No discouragement (12) -EDS courses are discouraging (1); repetitive (1) *Assignments (6)* -Portfolio preparation (18) -Writing reflections (9); summaries(4) *Other* -Teacher absences (4) -Peers not taking course seriously (1)	-No discouragement (14) *Assignments* -Doing homework (2) -Shared tasks (1) -Student presentations (1) *Course materials* -Too much reading (2)

Table 4.22 Continued	
-Feedback on portfolio (1)	-Low quality of readings (1) -Lack of supplementary materials (1) -Overcrowding of topics (1)

Perceptions About Portfolio Assessment

Findings show that portfolio assessment was perceived as one of the most discouraging factors for the constructivist group. Table 4.23 elaborates on learner perceptions with regard to portfolio assessment.

Table 4.23
Perceptions About Portfolio Assessment

Positive
-Useful (16); summary writing is useful (10); reflective writing is useful (4)
-Reflects progress and learning (11)
-Reflects learner creativity (4)
-No need to study for exams (4)
-Provides self-reflection of learning (3); self-evaluation of progress (3)
-Effective evaluation tool (2)
-Professional investment (1)
Negative
-Burdensome (14); time-consuming (5)
-Boring (9)
-Unclear about writing reflections (3)
-Hard (5)
Suggestions
-Skip summary writing, retain reflective diaries (8)
-Reflective writings about beliefs about CM (4), student gains (2)
-Reduce number of reflective writings (2)
-Need for more learner autonomy (4)
-Need for more research-based activities (1)
-Only one case study as portfolio (1)
-Increase number of creative tasks (1)

In the light of the data analyzed, participant reports contain the following. Id 1 stated that portfolio assessment was an important tool for self-development. She added: "Portfolio is a means that describes me; my creativity and my tastes; and how I perceive classroom management. I just become more creative." Another learner highlighted that portfolio assessment was an effective means for formative evaluation and enhancing motivation. She reported (id 7): "Portfolio is an important

tool to evaluate the performance of the learner regarding the change he (or she) went through by constructing knowledge, skills, and attitudes. On the contrary, there were many reports reflecting a very negative attitude toward portfolio assessment. For instance, although Id 30 and Id 31 thought that portfolio assessment had a remarkable impact on student learning, they complained that he could not receive feedback from their instructor. Id 30 reported: "Of course portfolio preparation contributed to our learning. We have to read and evaluate everything we learn. It would have been better if our own teacher evaluated our portfolios because teachers' expectations are different." An additional comment from id 31 is that he did not believe that feedback provided by another instructor could be useful, which implies that learners still feel bound to a single instructor. Such a finding actually points to the need for team teaching, and having learners see different perspectives and views on a certain topic.

Perceptions About the Evaluation Process Overall

In order to obtain learner perceptions about the evaluation process overall, both groups were asked how they liked the evaluation process they went through. Findings in the experimental group and the control group indicated the student-mediated midterm exam as an effective strategy. The control group required for essay-type tests rather than multiple-choice tests. As regards to process-based evaluation, learners in the experimental group reported varying perceptions ranging from peer evaluation to portfolio assessment (Table 4.24). Few of the positive reports by the experimental group state the following:

> The evaluation methods were very objective. I liked peer evaluation very much because it gave us the opportunity to see how hard it is to evaluate our performance in this course (id 10).
>
> This course made us feel that we (as prospective learners) are cared for (by teacher educators), and that we can succeed. The methods used throughout the course and evaluation process indicates that instructors do care about our opinion and value them. I find the methods used very modern (id 34).
>
> I am glad to have a test in the end (the achievement test). We are writing for the portfolio the whole time anyway. I think the mid-evaluation should not be very student-centered. I like the instructor to take the full responsibility. It was a very motivating and encouraging evaluation to see that you (the researcher) provided us with a detailed feedback (referring to the process-based evaluation) (id 7).

Table 4.24
Perceptions About Assessment Tools and Approaches

Experimental Group	Control Group
Positive -Student-centered midterm (21); requires more teacher guidance (5); considers oneself valued (2) -Current implementation is effective (16) -Portfolio assessment effective (7); provides opportunity to evaluate every detail (1) *Suggestions* -One general exam instead of portfolio (5) -Similar suggestions in Table 4.25 (2) *Negative* -Peer evaluation is ineffective (8) -Negative about portfolio assessment (5); Too detailed an assessment tool (1) -More instructor-based feedback (not R.A.) (5) -Student performance may be higher compared to the portfolio (1) -Unfamiliar with conventional evaluation methods (2)	*Positive* -Student-centered midterm (21); useful (14); educative (10), but requires more teacher guidance (4); provides opportunity for individual study (3); promotes responsibility taking (2); motivating (4) *Suggestions* -Essay type exams rather than multiple choice ((5) -Term papers measure student performance better (1) -Process-based evaluation (2) -Student-centered exams are of low quality (2)

As it can be seen positive perceptions were mainly depicting appreciation on the emphasis given to help the learning process of learners. On the contrary, few of the many negative reports were as follows:

> I do not believe that the tests we take measure our achievement (id 2).
>
> The student-centered midterm was not well-prepared. The questions did not evaluate our knowledge. It was ridiculous to give us a multiple-choice test after having written so many reflective diaries (id 33).
>
> The idea that my classmates will evaluate me is nonsense. I do not believe it will be very constructive and appropriate (id 9).
>
> Portfolio evaluation is too severe (hard), it makes me feel discouraged. If feedback was not provided by another instructor, this course would have been just perfect (id 21).

The above quotations imply that the experimental group appreciated the value of process-based evaluation through portfolio assessment. While some learners in the experimental group considered an additional testing tool as needless, others seem to appreciate a final examination to find out their achievement. Actually, such finding might imply that learners were not used to being evaluated through alternative assessment and might have not felt comfortable not having an outcome-based test.

Perceptions About the Instructional Approach on Learning Style

Findings indicate that the learning environment the participants were exposed to, influenced their learning style. It was found that the control group did not change much in their learning style exclusive of reading more real life cases to understand classroom management theory. The control group believed that their learning was enriched with the tasks and activities that they confronted in their CMC. The experimental group, on the other hand, reported that CMC created a difference in their learning style. They, specifically, emphasized that they read more for critical thinking purposes, and that this style of reading became a habit (Table 4.25). Id. 37 reported that she prepared a reflective diary after every block session. She added that she could not believe that they were doing for the first time the methods that the instructors suggested. Others said that reflective diaries gave them the opportunity to think about the situations (cases) and think critically (Id. 38). Id. 9 reported that she was making a summary for other courses as well. This, she wrote, was not because she was required to, but she did them because she just wanted to. Table 4.25 provides a list of themes that emerged in the data related to "change in learning style" in the experimental and the control groups.

Table 4.25
Influence of Instructional Approach on Learning Style

Constructivist Group	**Traditional Group**
No change (11)	*No change in learning style (22)* -Study before exam (6) Study underlined, highlighted phrases (8)
Changed Learning Style (18) -Reading for critical thinking (15); adopted for all kinds of reading (16) -Learning through reflective writing (14) -More organized in studying (4) -Preparing concept maps for understanding (2); note-taking (1)	*Changed Style* -Incentive to read cases or chapters (38) -Need for note-taking (9); and regular attendance (3) -No rote learning (4)

Additional comments provided by both the experimental and the control groups indicated the following: The constructivist group reported a general satisfactory attitude toward the course, and the instructors. Nevertheless, learner reports suggested for materials that were more native-specific (2); more field

practice-related (2); practical (1); and case-based (1). The traditional group, on the contrary, also revealed a satisfactory attitude toward CMC (5). Nevertheless, they required using portfolio assessment or term papers for evaluation purposes (2). It is a fact that working in groups and participating in discussions were positive experiences and these helped learners to understand learning processes more deeply and found grounds to reflect on their own growth. Doubtless, some learners might have enjoyed the challenges of constructivist learning, while others might have sought for the comfort and need of more objectivist instruction because teaching and learning cultures in schools are actually socially constructed (Niemi, 2002). To sum up, this section can be concluded with the report of a male learner regarding the additional comments he jotted down about Classroom Management Course, which actually implies a constructivist view to teaching and learning. What's more a constructivist view that requires a more interdisciplinary perspective in CMC.

> I think that all the EDS and ELT courses should be combined into one or two lessons; then there is no need to repeat the same things. ...The teachers should know that they do not have to give all information (knowledge) in their fields, but they might give us clues and show us the way. ... University is a place that should improve our analytical and critical thinking skills, and show the way (how to do it). The rest is the student's job (Id. 25).

4.6. Interview Results

There were mainly 2 sets of interviews realized. The first set of interviews were held with 4 separate focus groups right after the open-ended questionnaires were submitted for the purpose of formative evaluation. The suggestions and the difficulties the learners confronted were exposed in those interviews and were considered during the ongoing implementation process of the constructivist learning environment. Regarding the suggestions obtained from learners some changes or improvements were brought about. Ultimately, the second set of interviews was held right after the implementation. As mentioned in the third chapter, it was in the week that the learners were taking their final examinations and two of the focus groups could not come together. There were two independent interviews held. All the interviews referred to are reported respectively.

4.6.1. Formative Interview Results

As indicated in Chapter III, there appeared several themes under the guidance of the research questions during the interviews. All themes are elaborated on in the following paragraphs.

4.6.1.1. Goals Fulfillment

The interviewees were asked about their perceptions about Classroom Management Course (CMC), and whether their goals were fulfilled in taking this course. In all the four focus groups there was a positive attitude in their responses. Erkcan voiced that he had not much information about the course before he took it. He considered it would be mainly about using efficient strategies on classroom management. He believed that knowing about these strategies and applying them was related with the quality of the teacher. Tuğba said that she had no clear ideas what was referred to when one talked about classroom management. However, agreed to a certain extent with the above explanation, and added that CM might be about how to interact or build a relationship with students in or out of the class. Regarding this idea, she thought that her goals were being fulfilled because she learned different strategies about how to build effective relationships with students.

Aysun thought that CMC would be one of the most important education courses she ever attended when she was to attend the classes for the first time. She pointed out that all the pedagogical courses they attended previously were heavily loaded with theoretical knowledge. Aysun explained that these courses helped them understand about the cognitive and personal development of children. Certainly, they were all important to know, and did think that they would be able to use them practically. She believed that the knowledge they obtained in previous EDS course could be used in CMC. She said that CMC helped them learn how to interact and communicate and cooperate with kids.

Similar to the perceptions of the interviewee above, Tan voiced that he had no clear ideas about the course, but said that he had constructed basic knowledge by

that time about human development from several perspective and was hungry to learn certain things, he said:

> I especially wanted to know how to be in control of the entire class. I wanted to learn the reasons behind certain things and how I could most effectively cope with those issues in the most effective way. Therefore, I was really very curious about the content of the course. I was mostly bored in the previous EDS courses, but this one (CMC) I thought was to bring a difference. I expected more practical and concrete knowledge (Tan).

Derya, Emel, and Tan had no particular idea of how CMC courses were, yet, they were almost sure they were going to learn about discipline issues. Tan said that he was very afraid about his future classroom, and felt anxious about not to be able to have the kids listen to him or not be motivated to learn in class. Emel believed that the earlier EDS classes were not very beneficial for her, although she carried very positive feelings towards her earlier instructors. As soon as she took CMC, she was convinced that they (as teacher candidates) would be able to use the knowledge obtained in CMC at primary education level. She said it was more important to know how to reach them (the students) rather than teach them first. Seeing this, she gained a very positive attitude toward the course. Another interviewee, Gonca, said that she could guess that this was a course that required practice rather than theory, and was certain that she would like it. Since she considered CM as important to learn, she highlighted it as crucial to attend such a course (on CM).

Regarding their past and present perceptions, all of the interviewees responded they agreed that their goals were enhanced except for the field practice. Three of the interviewees voiced that they enhanced the goals of the course and their own far more than expected. They mainly stated that they thought of classroom management as bringing discipline in the class. It depicted mostly a controlling aspect. However, they believed with the techniques they used in the course they were able to grasp classroom management as a matter beyond dealing with misbehaviors. For instance one female learner, Derya, voiced that the nature of the course itself made them feel armed with tips and clues of how to act and use certain strategies and techniques to become effective teachers.

Although overall perceptions exhibited a positive tendency in enhancing the goals of the course and widened their views with regard to classroom management,

almost all of the learners agreed that the development of classroom management skills was dependent on real practice. The following quote provides a summary of learners' concerns:

> The goal of the course is to make us learn how to manage a class effectively. Certainly it enhances its goals, but in a certain pace. Such a goal requires lots of practice. CMC is about practicing, but this is questionable. How much do we practice? We need to practice in relation to what we learn. The theory we undertake is not difficult, but what matters is whether we can apply it … and we do not have field practice (Erkcan).

One of the interviewees, Gonca, said that her goal about CMC was to learn how to become a good teacher. What characteristics does a good teacher have? And does one become better by improving these? When she was asked if she could find answers from what they were doing in CMC, she complained that she confronted a different classroom environment than the ones represented in their textbook. She added that she could not be as an active participant as she wanted to be because she felt threatened in class. When I tried to elicit the reasons behind it, she sounded uncertain and said that this could be a reason of overcrowding, or the unclear instructions regarding some assignments. Consequently, not all learners felt that the needs of the course were addressed. Such finding shows that the learner did not feel safe in expressing herself openly in class. It might be drawn from such a finding that the learners' profile in CMC is rather competitive and slow or inhibited learners might not feel very confident to articulate their perceptions or reflections.

One of the female interviewees (Derya) asserted that if one wanted to understand if the goals of the course were enhanced, one needed to wait till they teach fulltime and then see. She added that she took notes of the strategies the instructor was applying in class that would be applicable to her future classes. Since the things she learned could be applied in real classroom environments, she indicated that this was perhaps one of the most important courses they attended. Ultimately, by modeling the strategies and the techniques used in class, the goals of the course would be enhanced gradually.

4.6.1.2 Perceptions About Resources Used

Learner perceptions about the resources used, clustered into two main themes. The first type of resources the learners perceived was the textbook or the course pack that the learners were responsible to read for their class discussions and reflective writing tasks. The second type of the resources perceived were the additional handouts or narrative cases, problem-solving tasks, and extra curricular materials like the video and authentic pictures, or work sheets used in class. In this section, only the former one is elaborated on because the latter has been mainly raised as issues concerning constructivist learning activities that constructed an active learning environment.

All learners in the interviews held generally a positive opinion about the course pack that they were responsible to read each week. Their positive perceptions were related to the quality of the content, the language used, the authenticity of cases integrated and the length of the units overall. Voices indicated the following.

Aysun voiced that the language used in the particular book was really fluent and understandable. Another female (Derya), also emphasized the fluency and the easiness of the materials they read and said that they were very enjoyable. Especially, she underlined that the examples based on real classroom contexts were to the point and displayed a practical message rather than the theory. Consequently, when the samples in the main textbook were evaluated, the learning became more meaningful and interesting to her. Çiçek agreed and added that the main textbook was very well-organized and did not include any repetitious issues. Tan asserted that all topics included in the book were important and were very suitable to what they were learning. Additional comments revealed by Emel were related to the compact (brief) presentation of theories, and that one strong main textbook was a valuable asset to relate it with other forms of knowledge.

Although the book received many positive reflections from a technical point of view, its content was criticized by almost all the interviewees excluding one. They believed that the content or the cases and behavior modification strategies provided in the main textbook reflected a notion of classroom management that might not fit or be applicable in the Turkish context. The interviewees said:

> The biggest disadvantage of this book is that it is of American origin and it does not reflect the authentic conditions visible in Turkey. Despite the clarity of the readings and easiness in grasping the problems revealed in the cases and finding solutions to them, I do not think they can be applied to the Turkish context (Erkcan).

The learners believe that it is impossible to find schools with similar standards in their culture (Tuğba). One focus group was questioning among them how it would be possible to apply what they had been reading in classrooms that consisted only of a blackboard and some chalk. They asserted that field practice was definitely a need to enhance the goals of CMC.

One interviewee, Aysun, indicated that she gave some volunteer tutoring based on a project and asserted "the literature presented in this book really does not go with the Turkish culture. You need to shout in classes to make yourself to be listened to. They (her students) did not understand anything about politeness." This finding implies that the learners came into the classroom with certain dispositions about classroom management or about classroom environments and might find it difficult to fit or adopt the new knowledge into the cultural context they would or might be teaching. It was hoped that in this study, the learners went through a conceptual change and avoided their controlling image of classroom management to one that was more related to constructing an effective learning environment.

Doubtless, the resources used in class may shape the way the activities were undertaken in classes. Although the learners revealed their dissatisfaction with case studies in their main textbook as they presented classroom management contexts beyond their expectations or experiences, many of the learners were convinced that it made them think about these points. Their thinking, they said, was mainly guided by whole, or small group discussions, and sharing of reflections about their past and present experiences. Alas, the following section provides evidence of how the learners perceived the classroom environment that they were subjected to.

4.6.1.3. Perceptions About the Learning Environment

When dealing with interviewees' perceptions about the classroom environment, several themes emerged. These were undertaken as constructivist

learning activities, including active learning and problem-solving, learner-centeredness, ownership of learning, and becoming self-regulated learners who participated in decision-making.

Constructivist Learning Activities

The constructivist learning activities the interviewees referred to were mostly evaluated from affective as well as cognitive perspectives. Voices indicated that utilizing a variety of activities in CMC were very motivating (Aysun & Erkcan). Learners believed that dealing with activities in small groups was very educative, especially, in terms of learning from a peer. Tuğba said that peer teaching tasks were helpful if one had not prepared him or herself for the session, and thought that the discussions going on in a small group helped them make sense of the new knowledge constructed with the help of the entire group. One of the male learners (Erkcan) added that more emphasis could be given on the group-work activities that had been provided in the book rather than the ones made up by the instructor, which contradicted earlier statements that indicated that the cases in the books looked inauthentic to them. He added that rather than having reflective discussions, they could have debates about certain subjects.

A female interviewee, Çiçek, voiced her satisfaction with the type of learning environment she was subjected to in the following way:

> There is definitely no lecturing going on in this class. When there is lecturing the only thing I do is sleeping. I am always actively busy. We do group-work, case studies (pauses) what we do is always collaborate, and discuss these. We are having a great time (Çiçek).

A male interviewee, Çağan, agreed with the above learner, and focused on the consistency of the teacher in applying the learner-centeredness in his instructional approach. He voiced:

> I remember being suggested to sit in a semi-circle by instructors from the first year on, but none of them applied it up to now. The way we are actually imposed on to sit creates a classroom that uses cooperative learning strategies, and these strategies are the ones we really like. I mean the environment that exhibits an environment of discussions, and we think it is very nice (Çağan).

When the learners answered the questions related to their perceptions about the learning environment they were subjected to, they voiced that it was absolutely student-centred. The groups were either formed by students' choices or by an activity used. Tan voiced that the way the groups were formed, and the way the activities were treated were very suitable for their learning. He provided an example to elaborate on the previous statement. He explained that they constructed a model of real classroom environment and wanted their classmates to guess what the problem was in the simulation they presented. He was proud that they presented the topic in the way they wanted. This attitude indicates learner satisfaction with the choice given in the experimental group.

Toprak highlighted that simulations were very useful for future practice to the extent that they themselves considered new techniques or strategies for effective classroom management purposes. Another interviewee stated his satisfaction by stressing on how they related a survey or observation of real classroom environments to the theory based on their reading materials. The learners were expected to show this link in the form of a poster presentation and reflect upon them as a group. Tan described the learning environment they were in as follows:

> At the beginning we construct a baseline of what we had read, and held certain views about the reading. Next, we formed groups and started to discuss to what extent our views might be right or wrong, or what might be added to our thoughts. There (within the group) is the possibility that many of us have completely different opinions (Tan).

The piece articulated by Tan indicates that the learners were deeply involved in the dialogue and that they constructed knowledge through speech. Speech and reflection is the main focus of social constructivist learning because language is the most important symbol system that supports learning (Vygotsky, 1986)

Use of simulations and role-plays were also mentioned as important in making sense of the learning and questioning particular cases that might come up during classes as prospective teachers. Tan said: "Simulations really make you live that particular situation. You put yourself in the shoes of the person in that situation. True we are not in the authentic learning environment that we envision ourselves, but I think and it becomes meaningful. I ask myself what I did wrong." Tan, actually, completely agreed with his peer Toprak that simulations made him think and were

useful in learning certain issues. As it can be seen in this study, simulations enabled learners to take ownership and engage themselves in the aspects of problem-solving (Hay & Barab, 2001)

Case studies seem to have had a positive impact on learners' knowledge construction as well. For instance, one of the female learners (Aysun) indicated that dealing with narrative cases made them think about actual classrooms. She said that it was effective to discuss and talk about the strategies the teacher used in class for effective learning and classroom management purposes. Discussing these issues might have produced diverse ideas and these might have provoked new approaches to management. The female learner pointed out those case studies made her think critically, she said:

> I used to think that classroom management was about dealing with misbehaviors. Now it is totally different. The case studies made me reconsider this. Even a grouping technique is dealing with it. Who should sit with whom and why? We discuss, then, how the situation presented in the case study could be improved. Well, it makes us think and reconsider certain things (Aysun).

A female learner agreed that the cases made her think, but she did not think that those made her think as she if were a teacher. She believed she needed more expertise to see herself in the teacher's shoes. Erkcan partially agreed and added that he always questioned himself by asking "What would I do if I were that teacher? How would I have set rules or routines in the beginning? What words would I use?" He believed that thinking about the answers might not suffice to learn, it required time. It can be inferred from this quotation that dealing with case studies made learners think critically and attempted them to build knowledge through self-improvement. This attitude also indicates that by questioning the learners became self-regulated learners. The learners' voices indicate that they often question their learning and their knowledge construct, which indicates that they became self-regulated learners seeking for livelong learning skills.

Working in groups was found to have a positive influence in developing CM skills. For instance, Emel said that she never liked to work in groups earlier, but the way they worked in groups in CMC was much more different than the ones they were used to. She thought it was because of the nature of CMC that she liked doing

group-work, and was convinced that the independent work in developing classroom management skills may not work out well. Tan thought that through small group work, it as easier to come up with new and interesting ideas, and the exchange of knowledge occurred in a faster way and was more interesting than sharing them in whole group discussions. Another learner (Erkcan) supported this view by saying that sharing knowledge in groups fostered the knowledge learned, and its retention was facilitated. Consequently, dialogue in this study facilitated the learning process, and this process exerted the zone of proximal development different than that was explained by Vygotsky. ZDP was not in the case of receiving guidance from a more competent to a less competent one, rather, classmates were complementing each other's knowledge construction by filling the gaps.

Although the interviewees revealed a positive attitude toward dealing with constructivist activities in the form of small groups, they stated some concerns related to group work from several perspectives.

First, overcrowding of the classroom caused loss of instructional time during grouping activities. Gonca complained: "We have difficulty to construct a group. We need to turn the chairs for one hour, and all that stuff ..." This finding implies that besides the overcrowding of the classes the physical environment of the classrooms were also hindering the flow of the activities to be conducted. A female learner, Emel, stated that overcrowding in the class caused discouragement when they had to do some activities. Another concern dealt with taking ownership of learning. The interviewees stated that not all the participants carried equal responsibilities while they were dealing with group work tasks. One female learner, Tuğba, complained:

> I don't think that peer teaching in a group is useful. Some of my friends do not get prepared before the sessions, and then the time given is not sufficient. The one who is prepared tells everyone in the group and that is not fair (Tuğba).

Within group-work activities, it can be seen that some learners did not take the responsibility of learning for the whole group. They easily quit because the instructor had difficulty in controlling the entire class, or all groups in a very meticulous way because of overcrowding. When this was the case, the learners did not like to form a group with the ones who were not holding ownership of learning.

Perhaps a solution could be a whole group discussion or sharing of ideas. Nevertheless, this also was considered to have some drawbacks. Tan sadly said:

> I have difficulty in participation and feel always kind of discouraged. Especially, when I have to contribute to the whole class discussions I feel resistant and keep quiet. Well, the portfolio helps me to reflect what I know and what I want to say (Tan).

Allegedly, the above quote indicates that there was a competition in the classroom to share knowledge with others. The ones who were alert and eager beavers to express themselves might have taken turns easily when they wanted to express themselves. Such a situation is critical to the extent of how to manage discussions to provide an environment that reflects equality of opportunity during reflective dialogue with the entire class.

The interviewees pointed out that the active learning environment they were in was particularly effective as they were engaged in problem-solving mostly. The learners were provided with scenarios that indicated certain problems based on student learning. A female learner (Aysun) showed her agreement by stating:

> We can discuss how to act to diverse student characteristics by the cases we examine. How we can behave as a teacher ...I think we know how to please the learners, but I am not sure if the resources I will have as a teacher will suffice. I do not know, we will consider them when it is time.

We can infer that the above learner tries to relate the knowledge she newly gained with that of her past experiences as a volunteer teacher. Yet, there seems to be hope in her voice that she would act as a constructivist teacher and might adapt her approach to the cultural environment. Regarding these findings there were mainly two additional themes that emerged in relation to constructivist learning environment, which are "ownership of learning" and "decision-making."

Ownership of Learning

The theme taking ownership of learning appeared as the learners' self-regulated attitude or will to learn about classroom management pedagogy. It also appeared as questioning the way they learned and how this contributed to their learning overall. A male learner Çağan voiced that they were teacher candidates and that they felt a need to feel ready to teach in class. They felt that they mostly talked

about definitions and similar issues in earlier education classes and did not know how to benefit from those. Therefore, they believed that all the experiences they shared in class were considered as valuable since they would contribute to their future practices. He added that he also liked to hear the personal experiences of his instructor since those were real cases and he would reconsider them, but he emphasized that he had his own way to deal with issues that arouse in class. Such finding implies that the learners did not want to adopt the strategies they learned in their classes as they were presented in several resources, rather, they became constructivist learners in the way that they would select the most appropriate strategy that the cultural environment required.

Another way of holding ownership for learning was revealed as the will to contribute to classroom discussions and bring new perspectives to solving problems. A female learner (Aysun) stated that she felt a need to contribute to the class discussions. She held ownership of contributing to the discussions not because it was a requirement, rather because she wanted to. She, especially, emphasized that the variety of activities provided them with such willingness to contribute. While one learner considered ownership of learning as contributing to the learning of the entire class (Tuba), another female learner (Derya) saw it as taking notes of the variety of activities used in class to engage learners in the learning process. She asserted that the type of techniques or strategies used for classroom management purposes or learning a particular matter were models she could use in her professional life. In addition, Çiçek felt a need to read the resources continuously, or do research to be able to become an active participant in classroom activities. These findings imply that the way the learning environment was built, actually, enforced the learners to take the ownership to learn and be actively engaged in the constructivist learning activities.

An interesting statement was voiced by Tuğba. She first complained about instructors who were used to lecturing method, and then stated her satisfaction by declaring how she held ownership of learning. She said:

> I mean you can say or speak whatever you actually want to. She (the instructor) asks, what do you think about this matter? How can we undertake this subject? Sometimes I feel a need to tell about a teacher I have had. ... What I mean is that this course is not about just listening or discussing.

> Because I want to become a teacher, and what we learn here is very important. It is for the first time that I really want to understand this subject and explain it because I enter a class and know it is important (Tuğba).

The way that the learner articulates her perceptions about holding ownership for learning indicates how much awareness she raised about her future profession. How she saw that her ideas were considered and valued, and that this was means to increase her self-confidence and taking the responsibility (ownership) for her further learning. In sum, throughout the implementation learners were empowered to take ownership of their learning by creatively and critically work through a full range of activities that required the development of new skills, practices, and knowledge (Hay & Barab, 2001). In such environments the problem-based activities that entailed simulations as well were supported through collaborative learning, in which learners witnessed and participated in each other's intellectual activity (Windschitl, 2002).

Decision-Making

When learners were asked how much they felt they were given choice in their learning, learner voices revealed that they were given choice in more technical issues than being given choice in the learning process. For instance, Erkcan said that it was perhaps the approach of the instructor that she always asked how we should deal with a certain task. He always felt that his ideas were valued, but it struck him during the interview whether he might have been given choice if they required for something really reverse. Yet, one should keep in mind that bringing about fundamental changes for constructivist learning and teaching is not easily realized (Windschitl, 2002).

There were some misconceptions about involving learners in the decision-making process or giving them "choice." Learners asserted (Tuğba & Emel) that they (the learners) were given choice in preparing their portfolio, and solving the problems given in the way that they wanted. Yet, they did not have the choice to avoid preparing it, and this showed that they actually were not given any choice, which implies a dilemma. For instance, Tuğba explained that she would have liked to research a topic she did not know much about rather than being assigned a topic. However, two male learners (Tan & Toprak) said that they were given choices to the extent how they wanted to prepare certain presentations or assignments, how to form

a group, or whom to form a group with. The instructor just acted as a mediator by giving the topic of research and the learners were free in the way they wanted to deal with their assignments (here the learners mean the content of their portfolios).

Çağan specifically believed that they were included in the decision-making process of learning because all learning was in the form of interacting with peers and the instructor. He pointed that they all had something to say about their past and present practices and that those experiences that they went through were means to discussions. He concluded that all their decisions were respected and were valued equally and made him feel that he held valuable ideas, which made him feel good about himself. Actually, decision-making of learners was perceived as being fostered with the collaborative attitude between the instructor and the learners (Tan & Çağan), and when the learners were in charge with presentation activities the whole session was in their hands or as Toprak expressed it was "under our control."

Beside the above, the interviewees indicated that they were presumed to be involved in the decision-making process, yet were demanded to do certain things from a top-down perspective. For instance, Ozan complained that they were given the freedom to add whatever they wanted to show their philosophy of classroom management; however, they were listed what they specifically had to include. He said that this attitude made him just do an assigned task rather than hold ownership of what he wanted to do.

Emel's interpretation summarizes the overall thought about the above stated perceptions. She saw the above explanations as having been given the opportunity to use her (and her classmates') creativity to deal with tasks in the way they wanted to, which actually indicated that learners perceived that they held ownership of their learning and did engage themselves in the decision-making process of their learning.

In sum, the interview data show that learners mostly perceived CMC as a course that would undertake how to handle with misbehaviors and how to be in control of the class. The learners thought that they had enhanced the goals of the course beyond their expectations. Nevertheless, one remarkable dramatic limitation revealed was that lack of field practice, and it was difficult for the learners to relate their learning with real classroom practices. Despite learners' complaints about the

latter, they revealed that thanks to the learning environment they were subjected to, it enabled them to practice their learning through active learning methods using narrative cases, simulations, or group presentations. Since the learners were concerned about their future professional practices, they felt a need to equip themselves by taking ownership of their learning, which again implies their self-regulatednes by thinking critically of every task they undertook. Findings also reveal that almost all learners were satisfied to be given choice in CMC to a certain extent. Such privilege made them feel that their perceptions were valued and became more motivated to learn. Yet, findings also revealed that the extent of choice given to learners were doubtful. Hay and Barab (2001) state that the central challenge in such constructivist environments is to determine how to support learners in the more challenging areas of their work without stealing ownership. Thus, one should perhaps discuss or debate over what ownership and choice indicate under the umbrella of constructivist learning environment.

Conceptual Change

With respect to the learning activities used in class, and the theoretical underpinnings presented in the reading resources, and messages perceived from narrative cases made the learners change their perceptions about classroom management and the role of a teacher. Consequently, learning is not solely located in the individual's mind. It is a consequence of authentic participation in the activities of a community of practitioners during the process of learning (Martinez et al., 2001) that eventually tends to lead to conceptual change. While they (Toprak & Aysun) perceived classroom management as dealing with misbehaviors or having the control over a class as a teacher, they started to recognize the teacher as one who created effective learning environments and knew how to converse and build cooperation with students. Teachers were accepted as individuals who knew how to reward learners intrinsically and gave them opportunities to succeed (Aysun). Toprak expressed his amazement that he never would have thought of how he could avoid misbehaviors in class. He had the traditional notion that teachers needed to cope with misbehaviors. Through discussions and reflecting on the compulsory readings, they decided that social rewards might be more effective in teaching, and this was one of the conceptual changes they went through.

Another conceptual change that the learners went through was the way that they changed their learning style. Three of the interviewees (Ozan, Çağan & Derya) indicated that they changed their learning style. They said that the change was mainly based on being more organized in doing the readings. They confessed that they were used to not doing their intensive readings until examinations' period. This course had changed their style by doing their readings for every week. They felt especially responsible to do that because they were also expected to write reflective diaries. Ozan explained that he gained a new habit, which was getting prepared for every week's readings. The purpose that lay behind this conceptual change was to read so that he could find something to say or contribute to what was being told during CMC. Another significant reason he said was the need to write reflective diaries. He uttered that he had to do the readings before the sessions as well as after the sessions to write those.

Three of the interviewees (Ozan, Çağan & Derya) believed that this course, and specifically the reflective diaries were means to work in a more organized way than they were used to. Actually, such finding indicates that the reflective papers were means to take ownership of learning as well. Learning based on active reflection and high responsibility by taking ownership of learning enable learners to overcome their own limits and are drawn in the flow that leads to professional development (Niemi, 2002).

4.6.1.4. Authenticity in Constructivist Learning Environment

While learners' perceptions about the constructivist learning environment were elicited, the issue of authenticity emerged into four themes. These were the authenticity of the goals of the course, the learning environment, the materials or resources used, and the tasks.

Authenticity of Course Goals

All of the interviewees voiced that CMC was very important for their future profession. They saw this course as a main source that linked their previous pedagogical courses with practice. Practice in this sense was used as building awareness of what classroom management was about and how to relate the theoretical underpinnings of classroom management literature and research to the cultural context the learners were in. For instance, Erkcan was skeptical about the extent they would be able to practice when they were not out in the field.

Derya and Çağan felt for the first time that they started to think like a real teacher. They stated that CMC made them recognize the fact that they would become teachers very soon. Çağan said that they felt an incentive to develop their skills for the teaching profession, not only from classroom management perspective, but also from the perspective of utilizing certain techniques and strategies, and presentations. For the moment it felt just right to him to improve his foreign language skills because he was to become a foreign language teacher. Derya thought that this course (CMC) went together with other departmental courses (such as methodology courses), and all served for their development as prospective teachers. She believed that the attitude of the instructor towards the learners and the learners' behaviors in certain circumstances made her think that to become a teacher they needed to be "a perfect teacher." All these values were an incentive for her to work harder and more effectively in all courses.

Authenticity of Learning Environment

In all the four focus groups, learners perceived doing the tasks in small groups was an advantage to discuss and reveal their opinions about certain matters regarding classroom management (Aysun & Erkcan). Erkcan, taking the approval of his peers, believed that doing tasks in group-work built a comfortable learning environment that was distant from any threats. He said: "participation in group discussions is directly related to the learning things that we really need to know. Therefore, we did not feel any oppression by the instructor or by our peers, and this exactly is what I like about CMC." Aysun explained that group-work made them keep focused on the tasks and what they were learning in this way. She claimed that

in other classes instructors mainly preferred to lecture and during such sessions, she did not even have the will to join discussions.

Another main theme emphasized was the authenticity of using presentations and lots of conversation in CMC. Çağan highlighted the importance of speech in developing self-confidence as a prospective teacher. He complained that he observed a weakness in himself and among his friends that they did not look very self-confident in their presentation skills, and this made him think that he would not be able to convince his learners when they were in the front. He emphasized that they as prospective teachers needed to focus more on speech, and presentations, and in return know how to cope with the dynamics or misbehaviors in class. Overall, he was convinced that the present course (CMC) was giving the opportunity to gain these skills.

No matter how hard they believed that certain tasks and the learning environment exerted authenticity, all participants highlighted the importance of field practice in learning about classroom management skills. Derya and Toprak stated that they earlier attended observations in the classroom, and discussed the behaviors or the attitudes of the teacher they observed with their instructor in methodology classes. Nevertheless, their knowledge constructs were not sufficient for that time. He asserted that participant observations in the field during classroom management classes would be more effective and easier to relate (the content of) the textbook to the authentic learning environment.

Interviewees indicated their awareness of being put in learner-centred environments, and believed that doing group work was the most effective strategy to enhance this. Çağan explained this as follows: "Group work helps to send the knowledge into the long term memory. In stead of saying, you can do this or that, here we say let's do this, let's present in this way, and I like such an approach. Group work activities help us consider the content from the Turkish context perception." Another learner focused on the diverse views a group had and how different opinions emerged. He said that those differences made them think about a particular topic in a different way (Toprak). Thus, actively learning about classroom management was regarded as a valuable asset. It enabled them to be engaged and interested in the topic, and it was rare that they would get bored. Group work, particularly, was

accepted as an effective strategy to enhance an authentic learning environment. Since each learner had different perspectives regarding a topic their exchange of ideas helped them see others' point of view, and learning was accepted as more meaningful in that way.

Authenticity of Tasks

Erkcan pointed out that there was no need to further discuss or read about theory. He thought that it was important to find out if the learners could make use of what they had learned and apply it into their classrooms. Erkcan believed that it was not enough to understand that classroom management was not only about discipline problems, but that they needed to be able to apply what they seemed to have comprehended as well. Thus, the need to fill the gap between theory and practice was mentioned again.

Especially with *writing reflective papers*, learners believed that they contributed to their future practices by thinking critically. Tuğba pointed out: "When we reflect on a certain subject, we think again about it. Actually, this helps to reinforce our learning. It is not the case to study for an exam, rather it makes us think about our future profession, and the retention of what we reflect is much longer."

Çiçek explained that the way they were dealing with the tasks, and the type of activities they were doing, made her always think that she was already on stage as a novice teacher. She said that she never considered becoming a teacher, but the way they undertook the course made her reconsider the teaching profession, and become a teacher. She said that CMC made her think what she could do under certain circumstances and knowing this made her sigh with relief.

Authenticity of Materials

Five of the interviewees complained that the main textbooks they used in class did not include matters that were culture specific to the Turkish context. A male learner Çağan mainly complained about the applicability of the messages provided in the cases. He stated that it seemed impossible to apply certain messages provided in the cases as they would confront classrooms that were equipped with a blackboard

and a piece of chalk. He found that the resources used in CMC reflected a learning environment far away from reality.

Erkcan showed agreement with his friends that the textbook they read was a disadvantage to the extent that it did not reflect the Turkish context. Yet, he said in a very constructivist way that it was the duty of the learner to adapt it to the cultural context. He underscored the authenticity of the narrative case introduced in the book, and how they might contribute to their own understanding of classroom management. Although the cases were authentic for the American Culture, Erkcan insisted that these were very foreign to their contexts. He said that they could use the theory, but would like to see (read) more observations that were taken from the Turkish contexts.

Although many of the learners said that they found the resources used inauthentic to their contextual environment, Tan stated that the sample classroom management materials (extra-curricular materials) from a secondary private school were very useful. The learner also highlighted the need for discussing such authentic classroom environments by using several video shootings in authentic contexts.

4.6.1.5. Motivating Aspects in Constructivist Learning Environment

The impact of constructivist learning environments on learner motivation appeared as a remarkable finding. Learner motivation emerged, specifically, as an outcome of the instructors' attitudes, the active learning tasks that required group-work, sharing of experiences, and enjoyable and/or relaxed classroom environment itself.

Instructor as a model

In three of the focus groups the instructor appeared as an important variable in increasing the motivation of learners. The instructor was mainly perceived as a model in developing classroom management skills. For instance, Tan revealed that the more the instructor showed enthusiasm and struggled for further development, the more they felt motivated to learn.

Derya emphasized the enthusiasm she saw in the instructor, and felt drawn with it. She admitted that there was no escape from being caught into the motivating classroom atmosphere. She associated the theory with the instructor's behaviors saying: "We learned from our readings that the teacher's motivation is reflected on the students'. We saw that this was really true. We were so engaged and enjoyed the session so much that we almost missed the whole break time." Another male learner (Ozan) approving that the instructor was acting as a model for them added that it was the first time to see such an enthusiastic instructor in the first hour on a Monday morning by receiving the approval of his peers.

Active Learning as a Model

The techniques used in CMC were accepted as models that they could apply for future practices. Toprak voiced. "For instance, your way of grouping us, the techniques and strategies you use in CMC are very advantageous for us to reconsider during our future practice. Sometimes we come up with new ideas, and try it in class. They really contribute a lot to our learning." Emel uttered:

> We do the readings at home, and reflect or discuss about the readings in class. There is no need to go over the entire reading in class. All the activities we do later on are based on active participation. There is no need to go over every single case presented in the book. We read it anyway. We tried to practice what we read, and this is very motivating (Emel).

Emel explained that she used to hate doing group work or collaborative work. In this course it made even sense to her and she enjoyed it at that time. Ozan explained that they used to hate education classes because it was just about who said what (theory-based). He stated: "Here we practice. There is always something to do actively, and we really feel a need to get prepared for our field practice. CMC makes us feel that responsibility."

Three of the learners (Tuğba, Erkcan, & Aysun) asserted that doing group work, and other activities that they were actively involved with were motivating and enjoyable. They emphasized that doing the same things throughout 50 minutes would be very boring, whereas the way that they were learning was very enjoyable and educative. They emphasized that doing a variety of activities impacted on their motivation a lot, and were pleased to prepare posters, and engage peer teaching

activities, and case studies. Similarly, Toprak pointed out how much he disliked being lectured a topic. Anytime the instructor was lecturing, it reminded him that it (the lecture) aimed at preparing for the examination. However, in this class any topic undertaken did not seem to be handled for the purpose of examining students, and thought that this fact motivated him most.

Relaxed Classroom Environment

One of the other main motivating variables that emerged was the classroom environment that was distant from any threats. The learners mostly voiced that the environment they were exposed to was very educative, and very enjoyable because they were always actively involved in the learning process. For instance, Ozan underscored how comfortable and nice the classroom environment was. He described it as follows: "The sessions go on very smoothly. We never get bored. When I compare it to other classes, this one is really relaxing and even enjoyable. Each time when we leave class, we really feel we learned something." Similarly, Çağan said: "We feel that our ideas are considered as worthwhile. I really enjoy reflecting upon our own experiences, and our observations at high school. We make use of our experiences for learning, and this really rejoices me.

Toprak said that feeling relaxed in this classroom environment was due to the way they were learning. While in other education classes instructors used lecturing method that made him feel that instruction was offered as a threat for examinations, and ultimately they did not learn much. However, this was just the reverse in this case. The other two interviewees approved everything that Toprak uttered. Thus, the way the learning was realized much influenced learner motivation. Also, since they were involved in the learning process, they held ownership of learning as well as contributing to the learning process of their peers, and developed intrinsic motivation.

4.6.1.6. Learner Perceptions About Assessment

In this study it was found that the assessment tools utilized exerted perplexing perceptions among the interviewees and themselves. The bulk of

interview data mostly showed a positive tendency to portfolio evaluation with regard that it contributed to learning; however, it also showed a strong opposing feeling toward preparing reflective summaries and the load of work learners had to do.

Knowledge Construction Through Portfolio Assessment

Although many of the interviewees (six of them) revealed that preparing a portfolio helped them learn better, all of them except for one learner (Çiçek) expressed their dislike toward preparing the portfolio. First, the positive perceptions of learners regarding portfolio assessment are explained. Next, their negative perceptions are explained.

Tuğba underscored that preparing a portfolio fostered the retention of knowledge. She did not feel that they studied to pass an exam rather learning was meaningful and was immediately related to their future profession.

Aysun stated that preparing a portfolio was very useful. It enabled them to synthesize and think critically about the subject. Especially, writing reflective summaries fostered learning. Yet, they still had concerns about how to write reflective diaries effectively. She complained that they were used to doing discussions and sharing about a certain topic or theory; however, she indicated that they never thought of how much those might have contributed to their new knowledge constructions. They were certain that their philosophy towards classroom management changed, yet they were not sure what variables made them obtain this conceptual change. Also, learners expressed their uncertainty of what to write and how to write, which will be elaborated on the section related to difficulties in portfolio assessment.

Other learners emphasized that portfolio assessment was an indicator or evidence of what they had learned. Ozan explained that reflecting upon a topic was about showing ones' understanding related to the topics undertaken in sessions. He admitted that they confronted certain difficulties during writing reflective papers. Though, he saw reflective writing as a means to recalling what was learned and synthesize all learning based on a particular topic. He pointed out that the synthesis or evaluations of his knowledge construction made him reconsider and review what he knew or not. He said openly: "While writing these, we reformulate our thoughts,

and rediscover the knowledge we undertook." Thus, critical thinking becomes the main focus.

Three of the interviewees had a common agreement that portfolio preparation, or writing reflective papers made them study in a more organized way. They said that writing those reflective papers for CMC changed their approach of reading for the course; therefore, they started to undertake the reading materials for other courses from a different or more critical thinker point of view. Consequently, it changed their routines to studying written materials. For instance, Ozan stated that the way the instructional design of the course was organized was an incentive to become an active participant, and therefore he felt a need to do the readings regularly. He just wanted to be able to say a few words, to comment or to think about what they discussed. He said: "It has helped me gain a reading habit. Especially, I never used to question what I read. Now I am used to question whatever I read." Gonca agreed with Ozan and said that she became more organized in her studies, and added that she did not feel even a need to study for the examination of this course. Similarly, Derya said:

> When you have a portfolio, you need to be very organized, and be prepared for every week. Since I always reflect on what we read or discussed, I don't feel a need to study at all. The retention of the content is much longer. We also add something from our decisions in our writings, but the grading for portfolio is too high and this discourages (Derya).

Tan added that portfolio evaluation was a chance for him to prove his development in the subject by just stating his own belief system. Besides learners' positive reflections about portfolio evaluation and writing reflective diaries, most of them indicated their dissatisfaction of dealing with these. Learners' voices indicated that this was a result of writing reflective papers for the very first time, being uncertain of what to write in reflective diaries, the overloading of assignments they had to do, and not having clearly discussed or not being provided with detailed instructions or guidelines in preparing the portfolio.

A male learner (Toprak) indicated his uncertainty about how to write reflective diaries as follows: "I find it meaningless to say what happened in class. First, I jot down what we dealt with in class, and think how it changed my point of view, for example, in the topic about rewards I completely changed my previous

ideas about rewarding. Then, I write down whether the activity was good or bad. This way is how I do it." Saying this he expected approval of the interviewer if it was a right or wrong approach. Another learner stated: "The main purpose of portfolio assessment is to reflect what we learned or understood. I think we have a misconception of what reflection means. Does reflection mean writing a summary or reflect what we used to think about a particular thing, and how our views retained or changed with regard to what we did in CMC. Actually, our instructor indicated the latter to us, but many of my classmates still do not know what to do. I know that many (learners) just summarized the topic, which sounds wrong to me." He again stated that preparing a portfolio has been very effective in learning about classroom management.

Another type of uncertainty was uttered by one of the female learners (Aysun). Although she agreed that writing reflective summaries made them reconsider the topics they went over, and enabled their development in learning about the theory, she had some concerns related to reflective writing. She complained that she had difficulty in differentiating what particularly was effective in holding a conceptual change about a particular topic. She said that her learning was unconsciously occurring throughout the semester, and could not notice what particularly made her think differently from what she was used to."

Many of the interviewees uttered that they found writing summaries very unnecessary, especially, because the textbook already contained a unit summary. Erkcan stated that writing a summary was a complex issue. He said:

> I write things that are already in the book. Why should I rewrite them to be put in the portfolio. I understand that the instructor expects us to write what we perceived and make a summary of our own understanding regarding the topic of that week, but I don't know. It is unnecessary!

Another learner said:

> I really do not understand why we should write a summary. The topic is already interesting, and the literature in the textbook is easy to understand. Actually, there is no need to prepare a portfolio, it is time consuming.

As it can be inferred from these quotations above, learners feel overwhelmed by the amount of work they have to do for a single course. Another, issue is that many of the learners are inexperienced about preparing a portfolio that contains

reflective diaries. Also, writing reflective diaries requires the learner to synthesize and evaluate the topics they have read or discussed, and relate it to their own philosophy of classroom management and its adaptability to the cultural context in which they most probably would be teaching.

Peer Evaluation and Self-Evaluation

All the interviewees stated that they were not familiar with peer-evaluation and self-evaluation, and did not accept that this type of approach to evaluation was objective. Yet, they stated that they could evaluate a certain presentation or work accomplished by their classmates as an activity, but they never would consider such evaluation for grading purposes. One set of concerns were related to hurting their peers' feelings when they held negative perceptions about their portfolio. Those types of concerns were mainly revealed with the researcher's class. Learners voiced the following concerns:

> This is not an acceptable way. I cannot say to my classmate that his (or her) portfolio was weak. By the way, he would not consider my perception very seriously (Erkcan).
>
> I cannot tell him (or her) that he did not do very well. Perhaps, I might tell my friend what he needs to improve in the portfolio (Tuğba).
>
> I am very skeptical and pessimistic about peer evaluation. I think this is a societal issue. If I start to criticize a classmate in class, eyebrows fall down. Therefore, I cannot do this (Ozan).
>
> We are not ready for it (peer evaluation) perhaps our critiques, our evaluations are not constructive, they are destructive like our instructor says (Çiçek).

Another set of concerns about peer evaluation was related to sharing their own documents. Actually, this type of concerns exerted a competitive rather than a collaborative view of learning and portfolio assessment. The learners voiced:

Kaan said: "For instance, when I examine a friend's portfolio, I am very much influenced by what he (or she) did. Then, I have the feeling to do more work in my portfolio. Of course, then the evaluation of my work becomes subjective." Yet, feedback by instructors seemed to be valued much more than any other individuals' evaluation. The following quote summarizes this idea.

> I do not believe that everyone will be as meticulous as someone else, for instance. I was impressed by your (the researcher's) evaluation. Not everyone would do the same. When we examine one's document, there might be other influencing means like Kaan said. It is not right (Kaan).

Emel added to what Kaan said and asserted her view about peer evaluation again: "We might be either very critical, or too positive about a document. It is very subjective. I don't believe it is helpful."

Regarding self-evaluation, learners again held similar perceptions as they did for peer evaluation. Yet, they agreed that their evaluations might be much harsher and more objective. Voices revealed that self-evaluation approaches should be facilitated by providing a criterion by the instructor because they were too inexperienced and immature to evaluate themselves (Emel & Ozan). Others indicated that they would evaluate themselves by just mentioning the degree that they contributed to an activity, but were skeptical that the instructor would consider this type of self-evaluation for the final grading.

In sum, portfolio preparation was regarded as an effective tool, in knowledge construction. Learners agreed that writing reflective diaries helped them synthesize and evaluate the knowledge they constructed from several means. This, in return, they believed contributed to the retention of the knowledge constructed. Therefore, learners did not feel a need to do extra studying for examinations and as such. Portfolio assessment was also perceived as a means to change their learning style. Learners indicated that they were more organized in the work, and felt responsible to do their readings so that they could actively participate in group-work or class discussions. Beside learners' positive perceptions about portfolio preparation, they thought it was very time consuming, and they were overwhelmed by the amount of work they had to do. Another negative perception was that they were uncertain how to write reflective diaries and summaries. They required more instructions on that matter. As for assessment purposes, data showed that the weight given for the grading of the portfolio was too high and discouraging. They, also, indicated that peer evaluation and self-evaluation was not a good means for grading purposes. Learners suggested only using peer evaluation for the improvement of the work that was being done. Another issue emerged in relation to sharing portfolios, and that was that the work of others could influence others' work, and that this was not fair, which

indicate competition rather than collaboration. In relation to the formative evaluation data, the following themes emerged as suggestions to improve the on-going implementation.

4.6.1.7. Suggestions Offered by Learners for Further Practice

The suggestions provided by the constructivist learners could be grouped mainly under three themes.

Resources

It was suggested that the resources used during CMC be more cultural specific. This could be enhanced by introducing research done about classroom management in Turkey. As they had no opportunities to join field studies, they required for visuals about authentic classroom environments. One example might be shooting a video of an authentic classroom environment. Guest speakers could be invited to express the strengths and or weaknesses they confronted regarding their classroom management skills. Finally, learners suggested using more authentic documentation from schools that dealt with classroom management issues.

Instruction

The constructivist learning environment that the learners were subjected to was perceived as very effective in learning about classroom management. They felt very motivated and happy as they were always actively involved in the learning process. Nevertheless, they saw the amount of group-work done as anxiety-provoking, especially, when they were in groups that did not hold ownership of learning and teaching, and when there was overcrowding. Portfolio assessment seemed to be an effective way in providing opportunities for the learners who felt reserved to speak out in class to show their knowledge construction or contribute to what had been said. Still few learners indicated that they liked preparing portfolios.

Portfolio Preparation

It was suggested that the items put in the portfolios should be more guided, and controlled systematically. The interviewees confessed that they had traditional learners' point of view and that they wanted to know how each item weighted in the grading. They expected that the instructor could more often provide the type of feedback given. One suggestion was that every week's reflective diaries were collected at least and that an overall feedback was provided. Although the interviewees believed that summary writing fostered their learning about classroom management pedagogy, they found it useless and time-consuming. The interviewees required that they were not given much autonomy in the process of preparing a portfolio. Rather they wanted that the instructor provided them with a detailed guideline on how to prepare the portfolio, and what criteria to would be used to evaluate them.

4.6.2. Summative Evaluation Interviews Results

This section documents the thematic analysis findings of the focus group interviews and the two independent interviews.

4.6.2.1. Goals Fulfillment

As regards the goals fulfilled, all six interviewees said that they did not have clear expectations about the course at the beginning of the semester; However, in time their expectations shaped as they processed throughout Classroom Management Course, and learned issues beyond their expectations. They all agree that they learned essential information about classroom management overall and became an effective teacher. Erkcan added that his expectations were fulfilled; nevertheless, he still had concerns whether he would be able to apply the strategies and techniques they learned in authentic contexts in front of real students rather than their peers. He said:

> Although we did lots of activities, it was a theory-based course. Instead of dealing with certain topics throughout weeks, I'd rather we had gone into the field and had practice opportunities at the site (Erkcan).

Another male learner (Çağan) stated he would like to have observed teachers in the field. This would have helped him relate theory to practice. But they know that they could not have had such an opportunity. At least the group work (simulations) they did with their classmates made them think about the authentic contexts, and he actually believed his goals were practice-wise fulfilled as well.

Content-wise, the learners did think that they had covered or learned all that seemed to be essential in knowing about classroom management. One of the learners saw putting theory into practice as a personal skill and said:

> I definitely see putting theory into practice as a personal skill. It is a way of interpreting what you learned into a certain shape and made use of it in real life situations. The important thing is that one can adapt the knowledge into my own way of seeing classroom management. This does not necessarily require practice in the field at this level. I think critical thinking, or in-depth thought, about what is learned can be very helpful and can compensate with the shortcomings of our practicing skills (Çağan).

In addition to the above, Emel believed that her goals were fulfilled beyond her expectations because one topic was undertaken in a variety of ways. She gave an example with the topic *misbehaviors*. She explained that they read the theory, discussed about some issues, and even examined different cases related to misbehaviors that might occur. Above all these, they did some simulation activities that fostered their learning and helped link theory with practice. The emphasized that they not only learned from an external means, rather they themselves were actively involved in the process of learning as well as teaching. She still held the idea that lack of field practice during classroom management was a shortcoming.

4.6.2.2. Perceptions About the Learning Environment

Learner perceptions about the learning environment were not limited to the constructivist learning activities. Also, learners' ownership of learning and decision-making related to that learning environment was undertaken in the focus groups.

Constructivist Learning Activities

The interviewees expressed their satisfaction towards the learning environment they were exposed to. Aysun said that the way they learned was very effective since lecturing type of instructional approaches was means to lose their concentration. She complained that in the traditional learning environments they could not retain the knowledge they heard. However, through simulations, case studies and other type of activities they used in their CMC, their learning was perceived as very educative. Such approach was enjoyable and also increased their motivation. They say that the presentations realized by their friends remained in their mind and facilitated to connect theory and practice. Aysun said: "That day I preferred to do a lecturing type of presentation, but immediately noticed that this was not right. I could have done a poster presentation or anything that was attractive to my classmates." Such a finding indicates that learners also changed the way that they needed to deal with instruction. They indicated awareness of the weaknesses of traditional methods and underscored the strengths of active learning environments and self-evaluate their choices in the presentations they give.

Regarding the group work the learners did, there were different opinions expressed. For instance, Aysun explained that group work activities had both strengths and weaknesses. She stated that she particularly liked learning from her group members or explained an issue to the group without any anxiety of making mistakes. The weaknesses were related to whom they were grouped with. The accidental or random groupings were not considered as very fruitful. She complained that someone might group among people whom he (or she) did not like personally. Çağan, Emel and Erkcan also expressed a similar point of view that agreed with the above statement. Despite this fact, Erkcan emphasized that group work activities fostered their learning. He expressed that they were not used to doing such group work, but was satisfied to do so and deal with peer teaching and peer evaluation overall. Although she felt sometimes lucky to hear different point of views from her classmates, Emel pointed that individual differences caused difficulty in their group work activities. She gave an example saying that some did not take ownership of undertaking a task, and the burden was on the shoulders of one or two individuals in the group. Consequently, she felt discouraged.

Ownership of Learning

Ownership of learning was perceived from several perspective. For instance, Çağan saw this as being able to utter one's own point of view in solving problems related to classroom management cases. For instance, Çağan felt more comfortable criticizing a peer within a group rather than in front of the entire class. He, especially, did want the instructor to hear his criticism about a friend's contribution or opinion.

As regard to ownership about preparing the portfolios, the interviewees expressed that they were not used to take full responsibility of doing a particular task unless there was guided control. Erkcan suggested that learners could be given a timetable in which was written what particular task they were expected to finish for that particular week. Actually, the learners seemed to have found difficulty to relate the time-table in their course syllabus with their portfolio guideline. Such a finding indicates that learners still hold a traditional perspective about roles of learners and instructors.

Decision-Making

Erkcan jokingly uttered that they were given choices but to a certain extent. They felt forced in the last week's group presentations that they had to do. Especially, they did not feel comfortable that they were actually told to do peer evaluations based on the portfolios they produced. Such a finding indicates that learners do not feel comfortable with the idea of dealing with alternative assessment. Also, continuingly trying to construct knowledge in groups caused burnout, and they thought that since they were required to do group presentations, they did not feel that they were given "choice." In other words, the notion decision-making was perceived as given the freedom of deciding what to do or not to do by learners, and this caused a conflict.

4.6.2.3. Authenticity in Constructivist Learning Environment

Within the focus groups, authenticity in the classroom environment was mentioned as the authenticity of the course goals, the active learning environment,

and the tasks. Derya and Aysun emphasized that they were demanded to do portfolio assessment even though they did not choose to do so.

Authenticity of Course Goals

Although the learners were aware of the fact that they needed more practice in the field to understand whether the goals of the course were enhanced, they did strongly believe that they raised awareness of what classroom management was about. For instance, Aysun said: "Considering what we learned, I believe that the knowledge we constructed in CMC is sufficient to be able to be in an actual classroom environment."

Authenticity of Learning Environment

Emel indicated her appreciation in the type of activities they undertook, but complained about the lack of field practice indicating it kept them away from the reality of being able to put theory into practice. As she was aware of the policy of the program, she suggested that they might relate their learning to authentic contexts if they were provided with more authentic video recordings as the one they had. She believed that even made-up movies might have helped them in the learning process.

Authenticity of Tasks

Although the learners could not participate in field practice, they said that the way they undertook certain topics made them practice and at least raised awareness of that particular topic through simulations and presentations. Emel voiced that classrooms were unpredictable contexts, and that it was impossible for them to learn everything that might occur in class. She stated that through various activities and discussions about many topics essential to classroom management, she raised awareness of how she might act in future authentic contexts. She stated that she was convinced that she constructed sufficient background knowledge about how to act in certain situations, and said that what she had to do rested upon her personal skills (in manipulating the knowledge she obtained).

4.6.2.4. Motivating Aspects in Constructivist Learning Environment

Findings in the summative evaluation mainly focused on two types of motivational variables explained in the following paragraphs.

Active learning

Learners stated that certain activities they used in class were specifically very motivating and provided them with a model they could consider for future purposes. Çağan said that changing duties within a group was very effective, and such variety within a task enabled them to hear interpretations with diverse perspectives. He believed that group tasks and referring to what had been said in the group raised awareness of the differences among individuals and also was means to take ownership of what one thought because there was not right answer to the problems they tried to solve.

The Learning Environment as a Model

Learners also expressed their satisfaction with being in a relaxed classroom environment. They felt they could adapt the particular activities they did in class as models for future practices. Especially, having revolving duties within a group every time yielded them to think that all learners should be given opportunities to undertake different roles. Erkcan joked that it was the first time he acted as a secretary in a group, and another Aysun expressed her satisfaction with being the leader of the group after a long span. The learners wanted to emphasize that this way was a good model to understand their learners' point of view when they would be assigned a certain role in a group. Emel said that she could overcome her own weaknesses in time management by evaluating the way a particular task or activity was provided by the instructor. Consequently, the way they were learning impacted on her learning style and became more organized in her studying and time management.

4.6.2.5. Perceptions About Assessment

Learner perceptions about assessment is explained under two main themes.

Knowledge Construction Through Portfolio Assessment

All interviewees agreed that portfolio assessment was an effective means to foster their learning on a particular topic. Aysun said that they had a need to listen to their peer's ideas and interpretations and more carefully and think critically about what had been said. Erkcan said that they first had a misconception about writing a summary and a reflective diary; however, after a few weeks' trial he got to understand how to write a reflective summary about the issues discussed or undertaken in CMC. First, he wrote all that came to his mind about the topic they learned in class. Then, he noticed that he had to synthesize and evaluate what was said or read with his own value judgments or beliefs about that topic. Çağan, Aysun and Erkcan complained that they had difficulty in seeing what aspect of a task or discussion influenced a conceptual change about knowledge they constructed related to classroom management. Doubtless portfolio assessment can provide a wealth of information about learners' knowledge constructs. However, instructors or teacher educators should be very specific and well-articulated on how learners need to deal with portfolio assessment. Instructors should be aware that journals can provide learners with the opportunities to reflect on practice and its implications for social change and personal empowerment (Orem, 2001). Thus, reflection may lead to more effective practice in the future practices of learners who are teacher candidates.

Peer Evaluation and Self-Evaluation

With respect to peer evaluation, Erkcan, trying to choose the right words, said that it was difficult to evaluate the contribution of a person and oneself to the learning or production of a group. He admitted that it was easy to see his own and others' weaknesses in the group, but had difficulty in uttering this in the group. The reason behind this, he thought, might lay behind the fact that they themselves might not have comprehended the logic of peer evaluation per se.

Likewise, Çağan complained that he could not be critical about a peer's presentation because they tended to misunderstand such criticism, and felt reserved to express his feelings about the presentation. When he did criticize a peer, he liked doing this without the notice of the instructor, because it would not look polite to criticize a friend in front of the instructor and would feel oppressed to doing. Unlike

other research studies, in this study peer evaluation is not supported as a means for contributing to student learning (Bain et al., 1999).

4.6.2.6. Suggestions Offered by Learners for Further Practice

In this section, findings that indicate the suggestions of learners are presented.

Suggestions for Resources to be Considered in CMC

The resources are suggested to reflect the native culture rather than a culture other than theirs. Emel suggested having more videos based on authentic environments so that they could use them as baselines for their discussions on a particular topic related to classroom management suggested introducing more research conducted in the Turkish context. Similarly did Aysun and Erkcan indicate that authentic resources based on the Turkish contexts would be more effective to adapt the theory into practice. Thus, authenticity was perceived as materials that reflected the local or national context and culture.

Suggestions for the Instructional Approach in CMC

The learners expressed that they were overwhelmed when they had to do assignments in a limited time. Especially, their final presentations were actually given in a very short time notice. Erkcan and Aysun suggested that the presentation assignments should be given at least one month earlier so that they could have sufficient time to do necessary preparations. While Derya believed in having autonomy to deal with tasks. She suggested converting the portfolio to a term project.

Portfolio Preparation

Çağan suggested that the instructor should offer 5 minutes or so after a block of lessons so that they could find time to jot down the most essential knowledge they obtained or the key messages that emerged during sessions to complete their reflective diaries. Another suggestion was the guided control by the instructor. The mid evaluation or so-called feedback by the researcher was regarded as very effective, but they were aware that such detailed feedback could not be provided

always. Instead, Erkcan suggested that the instructor could review the reflective diaries every other third week.

Çağan suggested that learners should be more guided in what type of items they could include into their portfolios beside their reflective diaries. Another suggestion was that they could examine a model portfolio prepared in the former years, but than they noticed that only their work could be used for such purpose as they were the pioneers in being subjected to such an instructional approach in CMC. Emel, on the other hand, agreed that the guidelines provided at the end of the term restricted their creativity and enforced them to prepare certain items that they did not feel comfortable about. She found that the detailed guideline exerted a traditional perspective compared to what they had done throughout the process of CMC, despite a detailed guideline was suggested throughout formative evaluation interviews.

Learner perceptions obtained during the semi-structured interviews indicate that learners showed improvement during journal writing, and that this contributed to the development of their reflective skills, and this in turn facilitated their understanding of how to deal with CM in the teaching practice (Bain et al., 1999). However, reflective writing itself was a dilemma in itself. Learners found it difficult to deal with reflective writing themselves and needed more guidance as suggested in the literature (Bain, et al., 1999; Orem, 2001) and more models of such journals might be shown as models to encourage learner growth in reflective writing.

Student-Centered Midterm

During the process of the implementation, all learners in the control group and the experimental group were asked to submit examination questions to involve them in the process of evaluation. The rationale behind this was that all groups would have equal opportunities in working on the student-based examination. Ultimately, a multiple-choice test was prepared based on learner-submitted items by the implementers.

Learner perceptions with regard to a student-centered examination showed that learners were flattered to be offered such an opportunity. Nevertheless, they questioned the quality as well as the objectivity of the test. Specifically, peer teaching types of activities are regarded as time-consuming because not all peers

came to class fully prepared. Rather than dealing with peer teaching in small groups, they required whole group discussions and sharings. Such finding was also indicated by Bain et al. (1999), but it was more in the sense of reflective dialogue rather than peer teaching. The authors state that in the research they conducted, although the learners appreciated the opportunity for dialogue and perceived it as a valuable contributor to their learning, they had difficulty to show evidence that indicated a measurable effect. The authors assert that in such situation one should be cautious about presenting the findings in relation to the value of reflective dialogues.

In the next section, a summary of the overall findings is presented.

4.7. Summary of Findings

Exposing learners to constructivist learning process in Classroom Management Course was found to be effective in the retention of knowledge. Overall the learners indicated a positive attitude towards constructivist learning; however, the assignments like portfolio preparation and writing reflective diaries were overwhelming and caused them to have a negative attitude towards the course from time to time. Yet, the findings underscore that preparing a portfolio and writing reflective papers are the touchstones for the retention of knowledge and fostering knowledge construction. The metaphorical images reported show that the learners changed they conceptions about classroom management after the treatment. The controlling type of metaphorical images converted into more leadership, and caring aspects of the teachers. The constructivist learning process, also, appeared to be effective in motivating the learners as they were actively involved in learning process. Aspects such as the positive learning environment, the positive attitudes of the instructors, the strategies and methods used for instruction and classroom management were perceived as models for their future teaching practice. A more detailed summary about the study is given in Table 4.26. It involves a summary of the data collection methods, sources and findings pertaining to the research questions.

Table 4.26
Summary of Research Findings

Research Question	Data Sources	Data Collection	Data Analysis	Findings
Achievement	Experimental and Control Groups	Achievement Test (Pretest & Posttest)	Independent samples t-test	No difference in posttest scores of experimental and control groups
Retention	Experimental and Control Groups	Retention Test (Achievement Test)	Independent samples t-test	Experimental group retained knowledge far more than the control group. The retention of lower order skills created a difference between the two groups.
Attitude	Experimental and Control Groups	Attitude Scale (Pretest & Posttest)	Independent samples t-test	Learner attitude is statistically different between the two groups in favor of the control group. The experimental group was overwhelmed by the work load they had to deal with, and this influenced their attitude negatively.
Conceptual Change	Experimental Group	Metaphorical Images Form	Content Analysis	Prior to the implementation the metaphorical images about classroom management depicted mainly controlling, authoritarian type of images. After the implementation the metaphorical images converted into leadership type of images.
Perceptions about the learning environment in CMC	Experimental and Control Groups	Formative and Summative Interviews Open-Ended Questionnaire	Content Analysis and Thematic Analysis	Motivating and enjoyable for both groups. Active learning enhances motivation and fosters knowledge construction. Instructional strategies and methods, and instructors' attitudes toward the teaching and learning process are regarded as models for future practices.

Table 4.26
Continued

Perceptions about learning through dialogue and discussion	Experimental Group	Formative and summative interviews Open-Ended Questionnaire	Content Analysis Thematic analysis	Group work and discussions foster knowledge construction. However, overcrowding in classes and the learners not taking the ownership of peer teaching is discouraging.
Perceptions about reflective writing	Experimental Group	Formative and Summative Interviews Open-Ended Questionnaire	Content Analysis Thematic analysis	Reflective writing is effective in the retention of knowledge. It promotes higher order thinking, and a change in learning style. Yet, it is difficult and overwhelming to write reflective diaries every week.
Perceptions about the evaluation process	Experimental Group	Formative and Summative Interviews Open-Ended Questionnaire	Content Analysis, and Thematic Analysis	Experimental group Portfolio assessment: *Essential in fostering learning about CMC, and providing evidence of knowledge construction *Too demanding and overwhelming. Tends to lead to negative attitudes towards preparing portfolios

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

The purpose of this study was to examine the impact of constructivist learning activities on the teaching and learning process on pre-service teachers' performance, retention, and attitudes in Classroom Management Course. In addition, it examined the conceptual change the preservice teachers went through by examining their metaphorical images about classroom management before and after the implementation. Finally, their perceptions about the learning environment they were subjected to were qualitatively explored. This chapter covers the conclusions and implications of the present study.

5.1. Conclusions

Conclusions drawn from the findings are presented in line with each research question.

5.1.1. Achievement of Experimental and Control Groups

One of the main purposes of this study was to find out whether there was a statistically significant difference in the achievement scores between the subjects in the control group who were subjected to traditional instruction and the subjects in the experimental group who were subjected to constructivist learning environment.

The post-tests results indicated that there was no statistically significant difference between the control and the experimental groups' performance in terms of achievement as measured through a multiple-choice achievement test despite the

mean scores in the experimental group were higher than that of the control groups. An in-depth study of the subscales in the achievement that measured lower order and higher order skills items were examined. Similarly, post-test findings did not indicate any significant differences in both groups' knowledge construction with respect to lower and higher order skills items as found by other research studies (Dochy et al., 2003; Tynjälä, 1999).

The findings obtained through the retention test that measured the difference in the control group and experimental group's retention of knowledge indicate that there was a statistical significant mean difference between both groups in favor of the experimental group. In-depth analyses of the findings indicate that the difference was caused by the retention of lower level skills. Such finding indicates that constructivist learning activities had a positive impact on the retention of knowledge in the lower domain of knowledge. In other words, this finding implies that the learners subjected to traditional learning memorized certain concepts or theories to succeed in an outcome-based examination. However, when retention was measured, it was found that learners in the control group tended to have forgotten the knowledge they constructed. On the contrary, it can be argued that the learners subjected to the constructivist learning activities were apt to learn for the sake of learning rather than passing a test. While the lower order skills items in the achievement test measured mostly concepts and theories undertaken during classes, these retained through utilizing constructivist learning activities in Classroom Management Course. This indicates that the learners subjected to constructivist learning environments were more equipped with deep learning structures as found by Lord (1999).

Results obtained through the essay-type test indicated that there was a significant difference in the post-test scores between the control and the experimental groups. The difference in the mean scores was in favor of the experimental group. While it was difficult to observe such difference in the multiple-choice test, the difference in the essay-type test indicates that learners subjected to constructivist learning activities were more successful in analyzing and solving problems. It can be discussed that such finding was bound to the impact of utilizing critical thinking and reflective writing tasks that were fostered through discussion or dialogue type of strategies in the experimental group. Vygotsky (1986) highlights that learners deeply

involved in dialogue construct knowledge through speech. Speech and reflection is the main focus of social constructivist learning because language is the most important tool that fosters learning. In this study, a culture was achieved through classroom discussion that provided mechanisms for enhancing higher-order thinking (Palincsar, 1998). Yet, some research suggests that it is difficult to conclude whether learning was improved through reflective speech or not (Lord, 1999).

Qualitative data obtained through interviews and the open-ended questionnaire show that learners in the experimental group reported that reflective writing had a positive impact on their knowledge construction and retention of knowledge. Other variables that were indicated to have an impact on their retention of knowledge was that learners were engaged in active learning tasks, and had to critically think, discuss and share their understandings related to classroom management and classroom management pedagogy. In other words, learners were actively involved in their learning process, and held ownership of their own learning that seemed to be fostered through collaborative work and reflective writing. Niemi (2002) states that learning is fostered through actively reflecting on what one reads or experiences and this statement is consistent with the findings of this study. In other words, as th tasks that the learners dealt with became more authentic to the real world community, learners held ownership of their learning as described in the literature (Hay & Barab, 2001). Windschitl (2002) highlights, through transforming all classroom practice into meaningful constructs, learners gained both academic knowledge and the personal experiences that make it possible for a conceptual change to occur. However, reflective writing itself was found to be a dilemma in itself in this study as it was regarded as time consuming and overwhelming. Learners found it difficult to deal with reflective writing and needed more guidance as suggested in the literature (Bain et al., 1999; Orem, 2001).

Findings regarding learner achievement are in line with the literature that says that constructivist learning is effective in the retention of knowledge (Yıldırım et al., 2001). However, in this study retention occurred in the lower order domain of knowledge. Such finding can be a result of using a single answer test in which items measuring synthesis and evaluation were few, but application and analysis were

plenty. Therefore, to understand the deep structures of learners' knowledge, open-ended items might be more effective in evaluating higher order items.

In sum, the conclusions that can be drawn about the impact of constructivist learning activities on learner achievement are as follows. First, the traditional view of instruction tends to prepare learners for examinations per se to absorb the knowledge by using surface learning strategies (Bereiter & Scardamalia, 1996). On the other hand, knowledge constructed in the experimental group was not obtained as isolated facts, but as broad concepts and interdisciplinary themes (Henson, 2003) that learners could synthesize and evaluate and reflect upon, and, in return, these attributions seem to have impacted on learner achievement. Second, the constructivist activities that required critical thinking and problem-solving skills were paramount in the retention of knowledge and knowledge construction. Another conclusion is that utilizing an outcome-based standardized test as an indicator of learners' achievement or performance can underestimate the knowledge construction they hold, and such a finding poses the question of whether assessment of learning should follow the traditional trend or match with the epistemological framework. Finally, essay-type traditional tests might be effective in detecting the difference between the control group and experimental group's achievement in order to measure the higher and lower domains of knowledge. Throughout the implementation the learners in the experimental group were empowered to take ownership of their learning by creatively and critically work through a full range of activities that required the development of new skills, practicing, and knowledge as indicated in the literature (Hay & Barab, 2001).

5.1.2. Attitude of Experimental and Control Groups

The second research question was related to understanding experimental and control groups' attitudes towards the Classroom Management Course.

Findings indicated that the attitudes of learners in the experimental group were statistically different from the learners in the control group. The difference was found to be in favor of the control group. When the mean scores are examined

deeply, it can be seen that both groups showed positive attitudes toward Classroom Management Course. However, the findings are in favor for the control group. In order to understand this finding, qualitative data provides insights about learners' attitudes toward the learning environment they were subjected to.

Findings indicated that learners were overwhelmed by the amount of active learning they had to do, specifically, by the end of the semester. They also, indicated burnout in doing group work and reflective diary writing. It can be concluded that learners felt unsafe, and were overwhelmed with the amount of assignments they were expected to do and lost self-confidence when they could not cope with those.

In addition to writing reflective diaries and preparing a portfolio, qualitative data indicates that learners did not like peer teaching, peer evaluation, self-evaluation types of activities during the sessions. Peer teaching was regarded as a strategy that worked for the learners who were under prepared and obtained knowledge from the hardworking or prepared learner from a very traditional perspective such as transmission of knowledge. It can be concluded that such attitude of the classmates made the hardworking learner feel discouraged and tend to obtain a negative attitude toward Classroom Management Course. This suggests that collaborative tasks might be more effective for less hardworking learners.

As for peer and self-evaluation tasks, the learners indicated that their culture played an important role in their perceptions and that they did not like to criticize their peers' performance. It was found that peer evaluation was not regarded as feedback for improvement, but as a way of betraying a friend. Consequently, the performance of peers could be overestimated. Although learners indicated that they would criticize for the purpose of self-improvement, they believed that their attitudes subjective and would underestimate their own performance in order to look modest.

It can be concluded from the findings that the learners both in the experimental and the control group had positive attitudes toward Classroom Management Course. Yet, the amount of tasks and assignments were overwhelming by the end of the term and this caused to have lower positive attitudes in the experimental group.

5.1.3. Metaphorical Images and Conceptual Change

In line with the third research question, the findings of the present study show that the experimental group held mostly traditional images of classroom management before the implementation. However, after the constructivist implementation their metaphors of classroom management remained similar, but depicted a different image than that was mentioned earlier. Use of metaphors provided a productive way of reflecting on the perceptions of professional lives or practices that allowed exploring the images of these lives from a changing perspective. In other words the use of metaphors yielded the process of reflection to be ongoing and purposeful (Perry & Cooper, 2001).

In this study the metaphorical images prior to the implementation mostly depicted a controlling image. At first metaphors like orchestra conductor, chef, coach, shepherd, lion, and brain held an image that showed the ruler or the controller of the classroom or the depicting context. However, the same metaphors were perceived as leadership type of images and depicted an environment that described teamwork and cooperation for successful classroom management. Another group of metaphorical images depicted caring aspects or more humanistic reflections about classroom management. These were images like butterfly, peace, snow flake, and mothering. These images all reflected a tender and caring image that converted into images that depicted holding certain qualities, or knowledge about classroom management to provide an effective learning environment that was distant from threats.

Opposed to the caring image there were images that depicted diversity, unpredictability and chaos. These were metaphors such as shopping center, garden, traffic, and battle field. While metaphors like shopping centers or garden reflected an image of holding knowledge about different strategies to cope with the diversity in class, these metaphors depicted images that reflected awareness of individual differences and acting accordingly so that the learning environment was distant from any disruptions. For the chaotic images, the metaphors depicted instability in class, and the struggles that the teacher needed to go through. Thus, the image that depicted

classroom management was mainly accepted as a discipline issue. Later these images turn into images of knowledge about differences in learning and personality, and using efficient strategies to gain learners' cooperation in the learning process.

The metaphorical images about classroom management in the literature depict similar type of images as found in this study. It is interesting that those learners changed their images with an intervention study through constructivist theory while the images referred to in the literature show a change from earlier practices to new practices. Bullough (1994) stated that the earlier metaphors in education were grounded in the "industry" metaphor. The schools were taught of as factories in the metaphors that depicted industrial images. Teacher rewarded students with tangible rewards in exchange for good behavior in class. In this study, reward was not mentioned, but the skillful attitude of the cook or teacher was able to produce a successful dish or successful learning.

The earlier metaphors that described classroom management from an authoritarian, disciplinary or industrial perspective depicted teachers as managers or technicians (Bullough, 1994; Glasser, 1990; Lasley, 1994; McLaughlin, 1994). Later metaphors started to depict more learner-oriented models (Randolph & Evertson, 1994) that depicted teachers as individuals holding efficient leadership qualities (McLaughlin, 1994; Weinstein, Woolfolk, Dittmeier, & Shanker, 1994) who could build learners' cooperation to enhance effective learning. In the present study, the metaphors were in line with latest metaphors in the literature. Before the implementation learners indicated images that depicted controlling and authoritarian images. Later, after the implementation, those images converted into images of knowledge about different learning styles, and individual differences to gain cooperation with the learners.

It can be concluded that field practice emerged as a shortcoming in the study. This was important to conduct practices in authentic contexts and explore whether the classroom management images the learners reported would match with learners' teaching practices. However, one should not underestimate the findings that helped learners construct knowledge as presented in terms of resources, tool-related practices, and intellectual practices (Roth, 1996 cited in Palincsar, 1998). The culture

that was achieved through classroom discussion provided mechanisms for enhancing higher order thinking (Palincsar, 1998), and this culture might be reflected into their filed practices.

In conclusion, the metaphorical images the learners described show that they came from traditional learning environments and attributed a controlling image about classroom management. Images like battle field or traffic show that learners were in contexts that were very complex, and a disciplinary attitude of the teacher was required. Actually, throughout the interviews it was found that the overcrowding of the classroom led to undepredictability and loss of instructional time during group work type of activities. However, by observing the instructors' group management and time management skills the learners might have converted those metaphors into images that raised awareness of individual differences and needed to appeal to different learning styles. On the other hand, it can be concluded that the theory the learners were exposed to exerted images that depicted the essence of cooperation for effective classroom management within the curriculum. However, this cannot be argued and needs to be worked on in future studies.

Another conclusion is the dilemma that emerged between theory and practice. It is crucial to understand whether the learners will become teachers who hold cooperating images, or images that depict awareness of individual differences and design their instruction accordingly. However, since the learners were not engaged in field practice it cannot be concluded whether their perceptions and practices match, and a longitudinal study needs to be done to understand whether the learners or teacher candidates images of classroom management are correlated with their practices.

The qualitative data shows two types of findings regarding learning orientations. Both the control group and the experimental group indicated some learners changed and others did not change their learning style. The ones who reported a change in the experimental group mostly highlighted that they read for critical thinking, and that they adopted critical reading to all types of readings they did. Another dimension they referred to was that reflective writing also brought a change in their learning style. On the contrary, the data obtained from the control

group also revealed a change in the learning. However, the change they mentioned was that they attended classes in a more prepared fashion than they used to do, especially for their reading assignments. However, change was not attributed to critical thinking or any other higher level of thinking. It was attributed to the need to read the cases and excerpts in the main textbook to be able to follow presentations or discussions in class.

Qualitative data also showed that learners tended to adopt their learning style to the contexts they were exposed to. For instance, interview data and learner reports indicated that learners in the constructivist learning contexts learned through engaging themselves in active learning tasks, and retained the knowledge they constructed through reflective writing and discussing about the topic with their classmates and the instructor. In addition, findings show that the learners' orientations to studying for reading and studying for examinations might change with the instruction they are exposed to. The learners in the experimental group were mainly subjected to performance-based assessment through portfolios, and reflective diaries. Consequently, their orientations to learning might be limited with the Classroom Management Course.

Analysis of interview data also revealed similar findings as indicated in the open-ended questionnaire. Learners in the experimental group explained that since they were writing reflective diaries based on the topics or units they studied, they felt responsible to read the reading assignments more meticulously. Also, they said that some learners adopted a new critical or reflective thinking kind of approach for the readings they needed to do for the courses they attended or for any other purposes. Data also revealed that the learners held ownership to change their learning style and reflect upon what they read because they needed to contribute to the discussions in class and share their own knowledge constructions or experiences with their peers. Consequently, during the constructivist learning process, the activities or tasks undertaken were means to adopt a new learning style.

Also, qualitative data showed that learners had different learning-orientations in sessions. Three of the interviewees indicated that they were independent learners and did not learn much through collaborative work. They indicated that the

constructivist learning environment ignored their learning differences, and put all learners in active environments. Such finding contradicts with the literature in that the learner typologies of pre-service teachers tend to choose the conceptual and social styles of learning over applied and independent styles (Matthews, 1994). Matthews argues that it is, therefore, essential that teacher education programs should emphasize on the learning style in the delivery of instruction in undergraduate courses.

It can be concluded that learners came from traditional learning contexts, and they occasionally wanted to work dependently on the instructor. Matthews (1991) argues that the learner's attitudes toward conditions of learning at college or university level may be an outcome of their experiences at lower levels of learning and the security of dependence on the knowledge received by the instructor. On the contrary, many interviewees indicated that the nature of classroom management course was destined to be put on social or active learning framework since they had no opportunity to go into the field and practice the skills they learned. Thus, the goals and the content of the course were found to be a determinant in the selection of the instructional strategy and the learners' studying styles.

Literature shows evidence that the students' epistemological beliefs and study strategies are linked with each other. Phillips (2001) conducted a study to examine the empirical relationship among students' beliefs and study strategies, and that these two dimensions were related to cumulative GPA The author found that the degree to which student beliefs and study strategies matched the features of an ideal solution for the problem. Such finding is essential to our knowledge that learners with equal GPAs or knowledge can differ in how they cope with unstructured problem solving, while one prefers simple solutions, the other may remain open to complex and integrative solutions. The findings of Phillips study can be associated with the present study to the extent to how learners want to study may indicate their epistemological beliefs of how they study.

To sum up, it can be concluded that the learning style of students in higher education may not tend to change by a constructivist intervention solely in one particular course. Learners who come from traditional education backgrounds mostly

adapt a learning style that reflects the teaching style of the instructor (Marks-Beale, 1994) and the learning contexts they used to be in.

Another conclusion is that learners come to class with certain dispositions about learning and these may reflect their epistemological beliefs about learning and teaching. It can be concluded that reflective writing contributed to knowledge construction. As indicated in the interview data continually reflecting on anything learned in class impacted positively on their learning process. Independent learners may tend to have difficulty in constructing knowledge in active learning environments fostered by collaboration. Such a finding indicates that learners actually took ownership of their learning and did not restrict their learning with curricular materials, rather it can be argued that they sought and researched for extra resources to solve problems or promote learning on a topic. This finding is in line with the literature that to the extent that it supported models of self-regulated learning. Learners use different resources, and use different tactics, and seek different ways of studying due to the contexts they are in. Thus, the learning environment that engages learners in some self-regulating activities also helps them to regulate their own cognitive processes (Ormrad, 2003). However, the style the learners selected in both the experimental and the control group are not robust across contexts (Hodwin, 2001). While some learners enjoy the challenges of constructivist learning others find it more comfortable with objective instruction (Niemi, 2002).

5.1.4. Impact of Constructivist Learning Process on Learners' Development in Classroom Management Pedagogy

This section provides the conclusions drawn from the fourth research question. It covers the conclusions about learners' perceptions about the constructivist learning process they were subjected to in Classroom Management Course. The findings are discussed in line with the themes that are linked with Vygotsky's social constructivist epistemology.

Learning Through Dialogue and Discussion

The social constructivist approach to learning sees dialogue and discussion as the focal point in constructing knowledge (Hedegaard, 1997; Marlowe & Page, 1998; Brooks & Brooks, 1993; Vygotsky, 2002). Vygotsky asserts (1994 b) that teaching and learning processes are effective when interactions take place in the presence of a more competent individual. These interactions and sharings relate to critical thinking and higher order learning. Through interactions among the learners, they construct a new culture when they participate in group work and internalize the impact of collaborating (Bredo, 1995; Hausefather, 1996; Palincsar, 1998). In the present study it was found that learners saw group work and dialogue as indispensable in constructing knowledge about classroom management pedagogy. Lack of field experience was expressed as a critical limitation in the program. Findings indicate that constructivist learning activities like simulations, problem-solving tasks, case studies, and other active learning tasks were relevant to relate theory to practice through use of social interactions among learners and between the instructor and the learners.

In addition to the findings discussed above, dialogue and social interactions among individuals depicted diverse perspectives and raised awareness of individual differences and cultural differences in schooling. Such differences were mostly apt to becoming more critical in learners' problem-solving skills and utilizing higher mental processes of learning that required evaluating new knowledge constructs (Blanck, 1990). It is interesting that findings in this study are not limited to the learning of an individual by a more competent person. Rather, learning is associated with learning from an individual who had different experiences than his or hers. Thus the zone of proximal development mentioned by Vygotsky seemed to be more restricted in peer teaching type of activities.

Also, a number of negative aspects were revealed about the amount of doing group work or discussion. Findings obtained from learners indicated that learning sometimes needed the lecturing type of method to foster knowledge construction. Findings indicate that social interactions throughout the constructivist learning tasks might take too much time, and essential information that could be shared by the

instructor should not be eliminated. Such findings showed that the learners still felt themselves safer when knowledge was provided from a traditional perspective although they believed in constructing knowledge through reflections and dialogue. Marlowe and Page (1996) suggest that little lecturing of the teacher might facilitate the knowledge construction in certain contexts; however, the teacher is warned not to overuse it.

In this study discussion method and sharing of experiences in small and large groups were perceived as encouraging the knowledge construction about the subject matter, enabling them to familiarize with multiple perspectives on a topic and promote higher order thinking skill (Larson, 2000). Findings in the present study are in line with the research studies on preservice teacher education. There is a considerable amount of evidence in the literature that constructivist approach to learning in preservice teacher education impact positively on preservice teachers' learning (Jadallah, 1996; Samaras & Gismondi, 1998;) and underscore that beliefs about constructivism emerge from experience and reflection (Holt-Reynolds, 2000; Piazza, 1996). However, in this study such environments were conducive to overwhelm the learners because of the overcrowding in the classroom, the physical environment, and the variety of active learning tasks used.

In sum, it can be concluded that social interactions were means to construct knowledge about classroom management pedagogy, and that the use of simulations, case studies, and other type of active learning tasks were effective in the learning process of preservice teachers. In this study, the learners had no opportunities for field experience to foster their learning about classroom management. Nevertheless, it can be concluded that subjecting learners to constructivist learning activities may help learners build awareness about classroom argument skills, and the culture the learners are in may influence their future practices. Although there was a positive tendency towards constructivist learning activities and use of dialogue, the class size should be small. Also, the instructor be flexible when using an instructional plan to give learners choice.

Writing Reflective Diaries

In the present study writing diaries can be discussed to have both a detrimental and a constructivist impact on student learning. It is constructivist to the extent that the learners indicated that such approach improved their critical thinking skills and impacted on their achievement. It was found that writing reflective diaries required frequently utilizing higher mental processes to synthesize and evaluate their learning about classroom management. The learners did this by linking their present and past experiences, with that of their peers', instructors', and the theory-based reading assignments.

Although the findings indicate that reflective diary-writing had a positive impact on learner achievement, it had certain drawbacks. Some learners had difficulty to connect the world of theory of their own knowledge constructs and with that of their peers' and struggled in their writings. They frequently questioned what to write and how to write in their reflective diaries, and were unclear or unaware about the instructions they were provided with at the very beginning. Such finding is in line with research that underlines that reflective writing skills need experience and practice of higher mental processes (Spilkova, 2001). Findings indicate that the reflections conducted with peers were apt to contribute to their learning (Bain, Ballantyne, Packer, & Mills, 1999) and report growth in their classroom management skills; however, the latter was not measurable because only learner perceptions were obtained. Literature indicates that there are certain levels that learners go through to adopt such reflective writing skills to encourage growth in reflective writing. Bain et al. (1999) suggest that learners need to report, respond, relate, reason, and reconstruct the knowledge they constructed through reflective writing. Nevertheless, learners' reflections about their practices were restricted with the simulations they did in class in this study.

Consequently, this study showed that reflective diary writing was an effective tool in knowledge construction. These reflections were mainly fostered through dialogue and interactions with peers. Also, findings showed that learners faced difficulties in writing reflective diaries, because they often requested for feedback and information about reflective writing, it can be concluded that learners were most

probably inexperienced in writing reflective papers. They might have not taken ownership of their learning while they were not openly informed about how to write or what to write. Also, they might have misconceptions about what reflective writing is or feel reluctant to indicate different views than the ones they were suggested. Finally, they might have not been provided with clear instructions by the instructor in order not the jeopardize the choice that was given to the constructivist learning group.

Alternative Assessment

The findings related to learner perceptions about alternative assessment were mainly related with the culture the learners were in. Findings indicate that learners found such approaches to evaluation very subjective and did not reflect reliable results. Learners asserted that peer evaluations that had negative perceptions about a classmate's product or contribution might lead to offence or criticism. On the other hand, positive tendencies in their evaluations might be attributed to being nice to the peer and overestimate their peers' performance. Similarly, self-evaluation was found to be very critical in many ways. Learners found that the more advanced peer was more critical in his or her self-evaluations, whereas the weaker learner tended to overestimate his or her performance, and, this consequently, raised the question of reliability issues in the evaluation process. Findings also indicate that learners argued against peer evaluation because of their competitive nature toward learning. Although findings show that learners struggled hard to help their peers to progress in their learning, they were very reluctant to share their portfolios to conduct peer evaluation. Three of the interviewees indicated that they might have been influenced by their peer's portfolio and modified their own as such that it ultimately looked better than the former one, and that this was defined as unfair.

As for conclusions based on learner perceptions about portfolio assessment showed conflicting findings. One group of learners believed that portfolio assessment was a good indicator of evaluating learner performance (Winschitl, 1999). In other words, the achievement of learners was not limited to a single testing tool, rather it was process-based and covered all types of learning, and contributions of the learners to the overall class. Thus, it was more meaningful and authentic to evaluate learners

through alternative evaluation (Biggs, 1996; Brooks & Brooks, 1993). On the contrary, there were learners who had negative attitudes toward preparing a portfolio because they always felt skeptical of what to include, and how much to include. This indicates that the learners felt insecure about the assignments that they were given. Thus, autonomy in portfolio assessment was discouraging. On the other hand, when learners were given detailed descriptions of what to do for their portfolios they argued that this was jeopardizing the "choice" that they were given. Actually, many learners felt overwhelmed by the amount of work that they still had to follow the instructions in the portfolio guide, and were disappointed that they had so much workload for a single course. These findings related to portfolio assessment are in line with the literature that learners mostly struggle in how to complete their portfolios to show evidence of their learning (Anderson & Bachor, 1998; Dutt-Doner & Gilman, 1998; Richards, 1996) and that they question the reliability of grading portfolios compared with other forms of assessment tools (Dutt-Doner & Gilman, 1998; Parsons, 1998).

From the above discussed findings it can be concluded that although the learners felt responsible in contributing to the knowledge construction of their peers, they held a competitive attitude toward learning. These can be in line with the culture of the program or the background of learners. Also, the learners felt reluctant in evaluating themselves and their peers. Such findings indicated that the culture the learners were used to did not indicate openness to peer evaluation and any negative (but constructive) criticism might not be considered acceptable. On the contrary, positive feedback might be considered as subjective. As for portfolio assessment, it can be concluded that the teacher education program the learners are in did not hold a portfolio assessment type of assessment culture. Therefore, learners might have misconceptions and doubts about portfolios regarding how to prepare them and how to evaluate them. Also, it can be concluded that learners felt insecure about the grading of portfolios because each portfolio reflects one's learning and it might be misinterpreted by any reader. Consequently, the alternative assessment approach was not found to be effective.

Impact of Constructivist Learning Activities on Learner Motivation

Motivation was enhanced through multiple variables in the experimental group. First, classroom management pedagogy was considered crucial in becoming an effective teacher. The learners were intrinsically motivated to learn and take ownership of learning about classroom management pedagogy. In addition, active learner involvement was seen of paramount significant because learning was built upon hands-on practice (Pankratious & Young, 1995). Findings indicate that learning classroom management pedagogy through constructivist learning activities is in line with learner needs and interests. Findings indicate that learners could associate theory to practice with the type of active learning tasks and added that active learning was promoting joy and interest toward the learning materials. Also, it was found that most learning outside the Classroom Management Course they attended was boring and was difficult to remember. This shows that learners are mostly subjected to traditional learning environments in their pre-service teacher education program and those were not perceived as efficient in promoting their learning.

Another type of motivation revealed was the will to adapt the techniques and strategies they observed or practiced in CMC. The findings indicate that learners either took notes of the types of techniques or strategies they used or adopted them to their class presentations in CMC or other courses. In addition to modeling the activities, the instructors' positive and enthusiastic attitudes were mentioned as means for increasing motivation. Findings indicate that the enthusiasm the instructors showed towards the teaching and the learning process, and their attitudes toward the learners and the subject matter were incentives to increase motivation. Also, the consistent attitudes of the instructors with their applications throughout the course were means to motivate learners.

Besides motivating factors, group size and the load of assignments and tasks were found to be discouraging. Learners reported and voiced that they felt overwhelmed by grouping the class and doing peer teaching activities in that crowd. In such situations they required dealing with more traditional type of instruction in which the instructor was mainly the operator of class instruction. Niemi (2002) supports this kind of finding by indicating that a radically constructivist course

would be more difficult to implement within the constraints of large numbers of learners, resources, and institutional culture. So, the author argues that it is cheering to think that a partial implementation of constructivist principles may actually become optimal for the learner population.

Consequently, learner motivation increased by being actively involved in the learning process. Learners took ownership of their learning and their peers' learning by frequently doing research, discuss, or refine knowledge by reflecting upon multiple cases and readings they did (Keating, Ballwin, & Thousan, 1998). Also, it can be concluded that the shift of a more teacher-centered approach to a learner-centered approach to learning was means to reflect on the dispositions they held about teaching and learning. In other words, they were motivated to model or adapt the activities they undertook in CMC to their future practices as prospective teachers. The instructors were regarded as role models in their knowledge construction about classroom management. This finding is in line with the literature that underscores the importance of instructors to act as role models in pre-service teacher education (Kroll & Laboskey, 1996; Lunenberg & Korthagen, 1996; Tillema & Kremer-Hayon, 2002) and that the way the instructors collaborated in their instructional planning was means to have learners collaborate among themselves as well.

5.2. Implications for Practice

Implications for improving pre-service courses, especially through utilizing constructivist activities are presented below.

1. A new culture is suggested to be built in pre-service teacher education to put learners in contexts where they can practice the innovative approaches or learning activities recommended in the literature. In other words, courses should shift from a teacher-centered approach to learner-centered approach. Learners should be placed in experienced-based contexts so that they can question the dispositions they hold about being an effective teacher or classroom manager, and build curiosity about the subject matter they learn. Consequently, it may empower learners and encourage them to reflect on their own learning. Such

contexts bind together teachers, learners, administrators, parents, and community members (Windschitl, 2002) to the extent that learners can reflect their learning through field practice.

2. To close the gap between theory and practice, pre-service teacher education programs should include more constructivist learning activities including case studies, simulations, authentic problem-solving tasks, reflective writing, and portfolio assessment to enable learners to link their learning with their prospective teaching and learning practices. This is, especially, suggested in cases where learners are not provided with field practice. Activities that learners handle in the pedagogical courses need to be learner-centered and exert authenticity and meaningfulness of tasks. It is suggested that the meaningfulness of tasks or authenticity of tasks contain samples of real life situations that reflect the culture of the school and the local environment.

3. Although learner-centered classroom environments are suggested to practice higher order thinking, instructors need to hold awareness that individual learning differences may conflict with the learning environments that they construct. For instance, in the present study although collaborative activities were valued and appreciated they tended to make learners feel overwhelmed or burnout when all learners in a particular group did not hold the responsibility of a team work. It is suggested that individual learning differences be accounted for and that learners be provided with choices of what to do and how to do on a particular subject matter.

4. In any circumstances, it is suggested that the classroom environment exerts a safe and relaxed environment where learners are motivated to learn and engage in the learning tasks. This safety can be enhanced by providing clear instructions about student evaluations and by appealing to learning differences. As it was found in this study, peer teaching might be discouraging in the learning process, when there are more autonomous learners in class.

5. Instructors in charge of dealing with the same courses and instructors who teach courses relevant to courses that deal with pedagogical issues need to collaborate. Such collaboration has two-fold effects. One, collaboration among instructors can

be an incentive for pre-service teachers to model and collaborate with their colleagues in their actual practices. Second, collaboration among instructors can facilitate the instructional and evaluation process. For instance, from an interdisciplinary perspective learners can produce common portfolios for two different courses rather than seeing one portfolio isolated from other pedagogical courses, and return reduce their workload for only one course. Although process-based evaluation was found to be a burden for learners they also indicated it as an effective tool for learning and the retention of learning. A collaborative approach may be means to see the scientific topics learned throughout the pre-service teacher education as linked rather than isolated wholes.

6. Utilizing portfolio assessment and constructivist learning activities are crucial in promoting higher order thinking skills, and practicing higher mental processes. Instructors should discuss and find communalities in their instructional delivery, and put learners in contexts that exert performance-based assessment. However, when the instructors make use of portfolio assessment in their courses they need to be explicit about certain criteria and the evaluation process rather than giving complete ownership to learners. Yet, few items are suggested to be included that allow for the decision-making of the learners. Concerns related to reliability and objectivity, especially, has become emergent in the grading procedures. One suggestion might be providing an evaluation checklist at the beginning of the course.

7. In addition to the evaluation procedures, peer evaluation and self-evaluation should only be used for the purpose of improvement of learner products and building new knowledge constructs, rather than for evaluating ends. This study suggests that the culture the learners are in is not open to criticism, and more activities need to be done to familiarize learners with constructive criticism to hold ownership of own learning and that of their peers'.

8. In this study it was found that reflective diary writing was perceived as time consuming, but an effective tool for learning. Since reflective writing contributed to the retention of knowledge, these are suggested to be used in classroom management course. However, instructors should provide learners with a variety

of sample or model diaries so that learners' are better guided in their writing procedures. Also, instructors are suggested to reflect on the diaries of learners to provide them with more constructive feedback. In addition, it is suggested that learners are provided with free time (e.g., practicing hour) during their Classroom Management Course so that they can complete their assignments during classes and collaborate with their peers. This strategy is hoped to decrease the overwhelmedness the learners felt due to the assignment.

9. Instructors are suggested to utilize reflective diaries themselves to keep track of what type of activities or tasks were more effective on student learning. These can be compared with the reflections of other teachers and they may enable them to modify their instructional plans or practices for the forthcoming terms. Such culture of collaboration might reflect their learners as well, and a mutual sense of ownership may emerge.

10. In any circumstances, it is suggested that the classroom environment in courses should show a safe and relaxed environment where learners are motivated to learn and motivated to engage in the learning tasks. This safety can be enhanced by providing clear instructions about student evaluations and appealing to individual learning differences. Also, the instructors are suggested to retain a collaborative and supportive attitude towards their learning throughout the instructional process to make the learners feel distant from any threats.

11. The nature of knowledge requires the instructors to commit to a life-long pursuit of improving their understanding of learner-centered education and of broader processes called teaching and learning (Henson, 1993). It is suggested that teacher educators follow this pursuit and become role models for their learners.

5.3. Implications for Further Research

1. In Turkey there is still little research on the impact of constructivist teacher education on student learning. Therefore, it is suggested to conduct more experimental research to understand the impact of constructivist learning process on student learning in pre-service teacher education specifically.

2. Research is also suggested to approach constructivist learning from a more interdisciplinary perspective. Research should not be limited with a certain number of courses; rather it should be the policy of the whole program. In other words, a new culture is suggested to be enacted in some preservice teacher education programs in Turkey as a pilot study, and the effectiveness of such program needs to be comparatively evaluated through longitudinal research studies regarding its impact on student learning and their teaching practices.

3. Learners come with dispositions about learning, and it is a challenging task to meet all learners' needs. It is essential that research be conducted and examined based on the learning-orientations of learners at the beginning of their pre-service teacher education program. It is essential to understand whether the learners who received education from different regional backgrounds and different types of schools hold similar dispositions. Such knowledge can contribute both to the teaching practices of the teacher educator as well as building awareness of what type of learning needs prospective learners are challenged with in their future practices.

4. Attitude tests that directly measure the impact of the learning activities need to be conducted and correlated with the learning style of learners. Such tests may enable the teacher educator or instructor to construct new perspectives about their instructional choices.

5. It was concluded that either the constructivist learning process or the content that the learners undertook was effective in changing the metaphorical images the learners held about classroom management. It is suggested that further research be conducted to explore to distinguish the influence of both dimensions. Also, longitudinal research studies might be effective in tracking learners' conceptual change about classroom management to examine whether their reflections and beliefs about teaching and classroom management are in line with their teaching practices. One suggestion could be that teacher educators are also asked about their metaphorical images of teaching and learning, and classroom management.

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APPENDICES

APPENDIX A

MULTIPLE CHOICE TEST

Name & Surname: .....
ID Number: .....
EDS 303 Section: .....

Concepts and Skills in Classroom Management

Instructions: Read each item and its alternatives carefully and respond accordingly. There are 60 items (8 pages) in total. There is only **one** correct answer. You have 75 minutes to answer the test. Good luck!

1. **Which of the following is the most important function of classroom management**
a. Avoid violating the rights of disciplined students
b. Stop any problems that may affect class order
c. Provide an orderly class atmosphere
d. Enhance a more productive and efficient learning environment
e. Devote a whole class hour to teaching

2. **Which of the following proposition belongs to the basic principles of classroom management?**
a. Constructing a silent environment is essential for efficient learning
b. A well-managed classroom is a place where efficient teaching takes place
c. A well-managed classroom provides an environment for efficient teaching or learning
d. There is no need for discipline rules in a class in which efficient learning takes place
e. Classroom management and effective teaching are planned separately

3. **Which of the following propositions does NOT belong to the basic principles of classroom management?**
a. Classroom management includes instructional planning
b. Classroom management includes decision-making
c. Classroom management includes student cooperation
d. Classroom management aims at constructing a disciplined environment
e. Classroom management requires collaboration with school management

4. **Which of the following is the most effective method to cope with discipline problems?**
a. The teacher imposes his/her authority from the beginning
b. The teacher constructs a democratic classroom environment
c. The teacher establishes a close relationship with parents
d. The teacher sets behavioristic rules and applies them
e. The teacher collaborates with colleagues on discipline subjects

5. **Which of the following is an example for the main characteristic "multiple dimensions" in a classroom environment?**
a. Having mixed ability students
b. Students' responding differently to questions asked
c. Actualizing a variety of learning activities
d. Utilizing a single classroom for different courses
e. Students having different perceptions about their teachers

6. **Which of the following is NOT one of Fred Steele's suggestions for an effective classroom environment?**
a. Security
b. Social contact
c. Symbolic identification
d. Development
e. Pleasure

7. **Which of the following is the most important principle that the teacher must follow while utilising classroom rules?**
a. Differentiate between student behaviour and student characteristics
b. Appeal to student interest
c. Pay attention to the principal's suggestions
d. Pay attention to other teachers' suggestions
e. Enhance student motivation

8. **Which of the following should be considered first when setting up classroom rules?**
a. Rules should be determined regarding the learning environment
b. Rules should be determined regarding student interest and motivation
c. Rules should be constraint with the teacher's stable principles
d. Rules should be set mutually with other teachers
e. Rules should be applicable and easily understood

9. **Which of the following is the most important aspects of classroom rules?**
a. Rules should be clear and understandable
b. Parents should be acknowledged about rules
c. Rules should be similar to the rules of other teachers'
d. Rules should be consistent with teacher's preferences
e. Rules should be consistent with student needs

10. **Which of the following is the most important alternative in constructing effective rules**
a. Rules should be consistent with school rules
b. Rules should be consistent with the rules of parents
c. Rules should be appropriate to other teachers' understanding
d. Rules should be applicable to daily life
e. Rules should not be numerous

11. **Which of the following aspects is the most effective way to avoid discipline problems**
a. Teaching rules when needed
b. Teaching rules to the entire school
c. Teaching rules through modeling
d. Teaching rules through lecturing in a long span
e. Learn about a rule after it has been violated

12. Which of the following activities is a must in the first session of the school year?
a. Determine students' seat places
b. Provide the students with an environment to enhance good relationships
c. Have the students respect the authority of the teachers
d. Have the students respect each other
e. Teach the students class rules

13. Which of the following assignments will be considered first by a teacher who believes in extrinsic motivation?
a. An assignment that can be accomplished by utilising library resources
b. An assignment that can be made after a visit to a museum
c. An assignment in student's course-book that weighs 10 points.
d. An assignment that students decide by themselves
e. An assignment that needs cooperative group work with peers

14. Which of the following assignments will be considered first by a teacher who believes in intrinsic motivation?
a. An assignment that will contribute with 5 points to students' final score
b. An assignment that will be scored by other students
c. An assignment students prepare based on their own interests
d. A term paper that weighs 50 points
e. A competitive assignment that will be awarded in the end

15. Which of the following is the most important aspect in enhancing student motivation?
a. Desire to be successful and the level of importance of the course
b. Teacher's attitude toward the student
c. Parents' attitude toward the student
d. Student's prerequisite knowledge about the course
e. School environment characteristics

16. Who will be most influenced in a class where the teacher has high expectations from a student?
a. The student himself / herself
b. All students except this particular one
c. The teacher
d. The student's parents
e. Other teachers

17. Which of the following is the most effective situation in developing an "I" concept in school achievement?
a. Telling the student that he/she has a high learning capacity
b. Telling the student that he/she is successful
c. Making the student feel good about him or herself
d. Make the student be aware of his/her own learning
e. Reinforce for a competition among students

18. Which of the following is NOT one of the basic characteristics of motivation?
a. The level of students curiosity and interest in the learning process
b. Catering for students' interest and goals in the learning process
c. Students' expectations about their achievement level
d. Students' satisfaction in the learning process
e. The cognitive level of the learning process

19. Which of the following indicates "awareness and taking precautions" in classroom management? (withitness)

a. "I know that you do not like school too much; however, if you want to have a good job, you'd better graduate."
b. "Ahmet, I see that you are bothering others. Finish your task and go on to the next exercise."
c. "Any noise from the back of the class again, and the entire class will need to stay in during break."
d. "Emel, your answer is wrong. You should say .... instead."
e. If you do not do your assignments, there is no doubt why you aren't able to respond."

20. Which of the following is specific about "controlling more than one issue at a time" in classroom management?

a. Taking into consideration every individual's interests and needs in planning social activities
b. One person having two jobs dealing successfully with both of them
c. Having a person study both during day and night time
d. A mother not ignoring to talk to the child while cooking
e. A manager having the same attitude to both his employees

21. Which of the following behaviors describes misbehaviors that require an intervention "depending on the situation".

a. Small discipline problems
b. Moderate discipline problems
c. Serious discipline problems
d. Chronic discipline problems
e. Issues that require suing

22. Which of the following means is a good way to avoid small discipline problems without creating disorder in class?

a. Keeping eye contact
b. Verbal warning
c. Subtract student achievement grades
d. Replace student's seat place
e. Time-out for the disruptive student

23. Which of the following suggestions reflects Thomos Gordon's "I-message" technique in classroom management?

a. Okan, this behavior can't be approved. Please, sit down.
b. Aysel, if you go on behaving like this I will talk to your parents
c. Neşe, there is no point in why you keep on acting like this. If you want a passing grade, you must be more careful
d. Other students are disturbed by your behavior. Please, behave yourself.
e. I am disturbed while you are talking in the back of the class. Could you stop that, please?

24. Which of the following is the most important rule in applying discipline rules?

a. Remind the rule whenever a rule is violated
b. Act in the required way whenever a rule is violated
c. When applying a rule, ensure that the student isn't humiliated
d. Apply discipline rules in accordance with the course
e. Change the discipline rules very often

25. While the teacher is teaching a student is beating the desk rhythmically. To avoid this misbehavior that causes much noise, you should first:

a. Give time-out for the disruptive student
b. Warn the student as soon as possible
c. Switch to a topic that is of the student's interest
d. Attract the student's attention by raising your intonation
e. Approach to the student to make him/her notice your presence

26. Which of the following aspects is the basic assumption of "behavior modification"?

a. Behaviors are innate outcomes
b. Behaviors are shaped by environmental influences
c. Behaviors are individual characteristics
d. Behaviors are results of affective characteristics
e. Behaviors are results of moral characteristics

27. Which of the following alternative is an example of "behavior construction" approach in social reinforcement?

a. Reinforce student's positive behavior by praising
b. Reinforce student's positive behavior with a candy
c. Reinforce student's positive behavior with a book containing social issues
d. Reinforce student's positive behavior with a bonus point
e. Reinforce student's positive behavior to be self-reinforced

28. According to the "behavior modification" approach, when the misbehavior has been observed for the first time which of the following should be followed?

a. Ignore the negative behavior and see whether it will be repeated
b. Tell the student that she/he will be awarded when the negative behavior will stop
c. Give the severest punishment when negative behavior is observed
d. Use negative reinforcement when negative behavior is observed
e. Discuss the negative behavior with the rest of the class

29. Which of the following principles should be considered when giving punishment for a misbehavior?

a. Keep student behavior apart from his/her character
b. Pay attention to the preferences given by the parents
c. Discuss the punishment with other students
d. Discuss the punishment with the student who is indulged in it
e. Give the same punishment that teachers do

30. Which of the following is critical when extra homework is given to a student as a punishment?

a. The risk that the assignment may not be done
b. The risk that the punishment may reinforce the discipline problem
c. The risk that the student may lose interest toward the course
d. The risk that the student may develop a negative attitude toward the teacher
e. The risk that the student may stay behind in his/her other assignments

31. Which of the following is critical in giving the whole class a punishment for the deed of few students' misbehavior?

a. The risk that the misbehavior may be reinforced
b. The probability that the entire class may not consider the punishment
c. The probability that the student who misbehaved may be regarded as a hero
d. The risk that the teacher may be critized for his/her management skills by the students
e. The risk that the entire class may leave the class

32. Which of the following teacher behaviors do NOT correlate with effective classroom management principles?

a. Decrease student grade based upon misbehavior
b. Act upon the misbehavior as soon as it occurs
c. Inform parents about the misbehavior
d. Inform the school management about the misbehavior
e. Talk with the student about the misbehavior

33. Which of the following punishments is NOT in line with effective classroom management principles?

a. Change student's seating in a class
b. Warn the student in class
c. Give additional homework to the student
d. Look at the student with a critical eye
e. Ask the student to defend him or herself

34. Which of the following messages does a teacher utilize, when she says, "I am confused when you speak without waiting for your turn"?

a. Reflective
b. Passive message
c. Explanation
d. Hidden threat
e. I-message

35. Which of the following classroom management principles is suitable for "law of least intervention"

a. Ignore misbehavior within the class
b. Ignore misbehavior outside the class
c. Control misbehavior without disrupting the teaching process
d. Take notes of the misbehavior and inform the principal
e. Talk with the student who misbehaved during recess time

36. You are teaching while the door is wide open. Suddenly you hear a teacher and a student discussing. What should you do according to Jacob Kounin?

a. You should warn them and exclaim that you are trying to teach
b. You should tell students how inconsiderate some people can be
c. Go out of the class and tell the teacher and the student to continue their speech elsewhere
d. Close the door and go on teaching
e. After class talk to the teacher whose speech disturbed you

37. Which of the following is a crucial principle in handling with a discipline problem in class?

a. Manage the class without disappointing the students
b. Manage the class in line with the rules of the school
c. Be consistent with other teachers while managing the class
d. Pay attention to parents' characteristics
e. Decrease disruptions to minimum during the instructional process

38. According to research at least how long do teachers have to wait when they address a question?

a. 1 Second
b. 2 Seconds
c. 3 Seconds
d. 5 Seconds
e. 30 Seconds

39. Which of the following is an example of "constructive feedback" given by a teacher?

a. "I'm aware of the fact that you do not cooperate in doing the assignment."
b. "It becomes obvious that you have not been checking the information in the document."
c. "You must have had a bad start this morning."
d. "It is important that you behave yourselves in class."
e. "I do not think that the entire class has improved so far."

40. Which of the following is a basic principle in cooperative learning?

a. Decrease competition among learners
b. Improve the relation between the teacher and the students
c. Teach without depending on a certain textbook
d. Help learners develop an identity of themselves
e. Help the students feel more comfortable in their classes

41. Class order reflects students' expectations. Which of the following class orders enhances student collaboration?

a. A semi-circle
b. A circle
c. Grouping
d. Lining up
e. Mixed order

42. Which of the following is the greatest disadvantage of group work?

a. Avoid student competition
b. The group members may have unequally participated in the product
c. The groups may consist of mixed ability learners.
d. The productivity of group members may decrease
e. Students individual rights may be violated

43. Which of the following is true regarding effective classroom managers?

a. They keep lessons moving at a slow pace
b. They intervene forcefully to stop unwanted behavior
c. They have a few clear rules and stick to them
d. They limit the management of one classroom activity at a time
e. They modify rules based on the situation

44. As means of lessening teacher-dominated discussions and increasing student participation in verbal interactions, which of the following is recommended?

a. Avoid variety in the classroom curriculum
b. Develop a repertoire of instructional methods
c. Minimize board work
d. Avoid assigning seatwork
e. Increase number of assignments

45. Mr. Ardan has his seventh grade science class divided into four cooperating learning teams. Lack of space at the lab tables prompted Mr. Ardan to set up three additional learning/discovery stations so all teams can be involved in different activities at the same time, on a rotational basis. This is an example of ...

a. movement management.
b. group focus.
c. utilizing the action zones.
d. group consequences.
e. Open congested areas.

46. Which of the following is a characteristics of "classroom environment"?
a. Multidimensiality
b. Immediacy
c. Unpredictability
d. Lack of privacy
e. All the above

47. Which of the following is the most important function of classroom setting?
a. Security and shelter
b. Social contact with peers
c. Symbolic identification of the setting
d. Carry out tasks that students need to accomplish
e. Interaction between the teacher and the students

48. Which of the following suggestions helps students carry out the tasks they need to accomplish successfully?
a. Students should have easy access to materials they need to use
b. Students' desks should be arranged as such to avoid congestion during groupwork
c. Seats should be arranged as such for a clear view of presentations
d. Create relevant bulletin board displays
e. Locate teacher's desk in an appropriate place

49. Which of the following is NOT a strategy for increasing students' learning time to "minimize transition time"?
a. Establish clear routines
b. Monitor students' progress
c. Establish clear rules
d. Have clear beginnings and ending
e. Prepare students for coming activity

50. Which of the following illustrates the time lost to absences, special events, or half-days from the mandated time.
a. Available time
b. Instructional time
c. Mandated time
d. Engaged time
e. Academic time

51. Which of the following students are most likely to be bored because they think the collaborative task is uninteresting or boring, often because it is seen as too easy or unchallenging.
a. High achievers
b. Low Achievers
c. Mostly low achievers
d. Mostly high achievers
e. Mostly low or high achievers

52. Which of the following alternative does NOT describe a complete cooperative type of group?
a. Students share their materials with their groups
b. Students solve conflicts that occur in a task
c. Students collaborate on isolated tasks
d. Students take turns
e. Students listen to one another

53. Which of the following is NOT a benefit of utilising groupwork in lessons?
a. Enhanced motivation
b. More involvement in learning
c. Greater achievement
d. Increased competition among students
e. Increased interaction between gender groups

54. Which of the following is an important function of using recitation in lessons?
a. The teacher plays a dominant role
b. Recall is emphasized over higher-level thinking skills
c. It allows less contact with individuals in a group setting
d. The student is a passive participant
e. It involves students in presentation of materials

55. Which of the following alternative is evident to Gordon's message in "family-teacher cooperation?
a. The changing nature of the family
b. Reluctant parents to involve in schooling
c. Reluctant teachers to involve families in schooling
d. The level of autonomy teachers enjoy in classes
e. All of the above

56. Which of the following describes the "action zone" in a classroom the best?
a. Area where students can move around whenever possible.
b. Area where the most interaction occurs between the teacher and students
c. Area that covers the front of a classroom, including the teacher's desk
d. Area where students have the opportunity to change seats
e. Area where activities are conducted in the teacher's supervision

57. Which of the following does NOT relate to providing "security and shelter" in the classroom?
a. Implement safety guidelines for dangerous supplies
b. Put cushions around for softness and protection
c. Arrange space for freedom from interference
d. Create opportunities by providing cardboard dividers
e. Locate teacher's desk in an appropriate way

58. Which of the following is NOT a hazard of recitation and teacher-led discussions
a. Limits group interaction
b. Unequal participation of students
c. Loss of pace between turn-taking
d. Loss of focus on discussion topic
e. Difficulty in monitoring comprehension

59. In fostering collaboration between families and schools, schools can assist families in carrying out their basic obligations by
a. providing parent education
b. establishing parent-support groups
c. referring families to community agencies
d. referring parents to state agencies
e. all of the above

60. If you had a very disruptive student in your class, how would you start your conference with the parent?
a. "Your son is a delight in class, but can make it difficult in cooperating."
b. "Your son does not have any interest at all in subjects we do in class."
c. "Your son has a serious attitude problem. Any family problems lately?"
d. "I wonder whether you are aware how disruptive your son is these days."
e. "I wonder how you raised your child. He is difficult to cope with in class."

APPENDIX B

ESSAY TYPE TEST

Name & Surname: .....
Number: .....
EDS 304 section .....

Quiz: Case Study

Instruction: Read the following 2 cases and Interpret the cases regarding classroom management aspects.

1) Describe and analyze the situation from classroom management perspective. In other words, identify classroom management aspects we dealt with in class (e.g., Steele's, Kounin's, Gordon's concepts)
2) Describe and analyze the patterns of misbehavior that you recognize.
3) Provide suggestions and strategies the teacher could use to establish better behavior? Consider ways to avoid potential problems that may occur in both cases.
4) What methods or approaches would you use to utilize instructional time more effectively?

Mr. Aydan's Case

Mr. Aydan is teaching English the 7th graders in a public school. There are 35 students attending the class, Some of the students even share their desks with 3 of them. As his class begins, he makes eye contact with two students who are exchanging notes; the students quickly get out their class materials. "Let's begin by working some of the exercises at the end of the chapter; you'll need your notebooks." As students begin to get out their materials, Mr. Aydan calls out that he forgot to tell the students to bring money the following day for the field trip. And asks how many of them are going. After a brief discussion, students finish getting out their materials. Mr. Aydan says, "we will go over the exercises orally, but I also want you to write the answers in your notebooks as a part of today's classwork. I'll come around and check on your notebook work later in the period. Now, how can we answer the first question? Hands please, Yağmur?". Mr. Aydan conducts the lesson by calling on various students, some with hands up, others seemingly at random from the nonvolunteers. About halfway through the exercises, a student enters the room and asks for a piece of chalk. When the student leaves, Mr. Aydan goes to his desk, sits down, and says, "Okay, where were we? Oh, yes, question 7. Say, where did Kaan and Temur go? I didn't give them the permission to leave." After several minutes more, Mr. Aydan halts the

activity and says, "Now I'd like us to discuss the test coming up this Thursday. Let's make sure that you are all clear on what will be on the exam and what you will need to study to get ready for it." After a pause he adds: "I almost forgot. Get out your questions from before and look at the next to the last one. We need to add an important point that was left out." After finishing the item, he does not turn to the test. And says, "Just wait until you hear about the videotape we will be viewing tomorrow. I borrowed it from another teacher, and she said that her students thought it was one of the most thought-provoking, exciting stories they had ever seen!". Suddenly, the bell rang, and all the students hurriedly in a noisy way rushed out of the classroom.

Mrs. Onat's case

Mrs. Onat is teaching 30 ninth grade students in English courses. In her first meeting she introduces herself and explains her eagerness to start working with them. She says that she wants her students to understand and enjoy learning English as much as she does. She adds that she beliefs that, "Pupils learn better when they are in a friendly, supportive environment. I'll encourage you to take charge of your own learning. I want us all to feel equal". Mrs. Onat adds that no matter how a teacher works with pupils, if pupils learn anything, they actually teach themselves. Everybody learns at their own pace."

Three weeks later, Mrs. Onat gets disappointed that none of the students has progressed as much as she thinks they should have. She complains that half the period is over and they haven't learned enough English grammar to make a passing grade yet. Also, she sees them being involved in tasks other than the English lesson. Ultimately, gets angry with the students. Students say that Mrs. Onat wanted them to work at their own pace. One day the teacher consults a colleague who is known to be strict. She complains that the students are tardy and does not know how to deal with that. Meanwhile, the principal wants to see Mrs. Onat because some parents complained that their children had difficulty in working on an individual base.

Mrs. Onat changes her teaching attitude, yet feels too much time is wasted in class while students get settled after class changes, get supplies ready, or move from one activity to another. While the teacher deals with students' problems, makeup work, or questions at the beginning of class, students talk and begin to play around or wander. It then takes some time to get their attention and get class started. Also, when activities change during the class period, students sometimes delay activities while they sharpen pencils or borrow supplies. Trading paper to check work in class usually results in some confusion. Mrs. Onat has spoken with her class about the problems and has set rules for sharpening pencils immediately upon arriving and taking seats before the bell. She tries to enforce these two rules, but she is also required to monitor the hall.

APPENDIX C

ATTITUDE SCALE

EDS 304 section .....
Gender: □ **Male** □ **Female**
GPA: .....

Survey of Attitudes Toward Classroom Management Course

The questions below are designed to identify your expected attitudes toward Classroom Management Course (EDS 304). The item scale has 5 possible responses; the responses range from 1 (strongly disagree) through 3 (neither agree or disagree) to 5 (strongly agree). Read every statement and put a mark in the box that corresponds most to your agreement. Please note that the results will be used for research purposes only. Thank you for your cooperation. ☺

Hanife Akar
METU; Dept. of Educational Sciences

1= Strongly Disagree
2= Disagree
3= Undecided
4= Agree
5= Strongly Agree

All these items are related to Classroom Management Course	**1**	**2**	**3**	**4**	**5**
1. Classroom Management Course is one of the courses I like the best.					
2. I like discussing about classroom management.					
3. I think learning about classroom management is useful for my future.					
4. I get irritated getting over classroom management tests in class.					
5. I am anxious when I have to deal with classroom management assignments.					
6. I am under stress during classroom management course.					
7. I am enthusiastic about learning classroom management.					
8. Classroom management skills are easy to be learned.					
9. I enjoy taking classroom management course.					
10. Learning about classroom management is worthless.					
11. I think Classroom Management Course is very important.					
12. If I had the possibility, I would not take Classroom Management Course.					

	1	2	3	4	5
13. Topics on classroom management are not interesting.					
14. I wish I had advanced knowledge related to classroom management.					
15. I am bored when studying topics based on classroom management.					
16. Even thinking about classroom management annoys me.					
17. I am anxious about learning the topics on classroom management.					
18. Every prospective teacher should learn about classroom management					
19. Topics on classroom management help us think about our classroom management skills.					
20. I am bored when I talk about classroom management.					
21. Classroom management course is relevant/accurate for teacher education program.					
22. I feel comfortable when studying for Classroom Management Course.					
23. I do my assignments for Classroom Management Course with pleasure.					
24. I feel comfortable in Classroom Management Course.					
25. I am more enthusiastic while studying for Classroom Management Course than any other topic.					
26. I am more concerned about obtaining higher grades in Classroom Management.					
27. I do not like the way we learn about classroom management.					
28. Classroom Management Course is not necessary					
29. I like doing research on classroom management exclusive from course requirements.					
30. I feel uneasy in Classroom Management Course.					
31. I attend Classroom Management Course only because it is a "must" course.					
32. I don't like spending time on doing classroom management assignments.					
33. Reading about classroom management is not important					
34. Learning about classroom management is interesting.					
35. Learning about classroom management is exciting					
36. I have no self-confidence in studying classroom management					
37. I am irritated when I hear about Classroom Management topics					
38. I like solving problems based on classroom management.					
39. Discussing about classroom management is important					
40. I forget all the things I learned in Classroom Management Course.					
41. Classroom Management activities are challenging.					
42. I find classroom management activities important.					

Please specify if your expectations from Classroom Management Course (e.g., knowledge, skills, perspectives, evaluation ...) are fulfilled. You may use the backside of the page.

.....

.....

APPENIX D

METAPHORICAL IMAGES FORM

Instructions: Read the following questions, and write your metaphorical image and why you think so on a piece of paper. Next, discuss your metaphorical concepts in groups

1) What metaphors or images come to your mind when you think about classroom management?
2) Why do you associate that particular metaphor with classroom management?

APPENDIX E

SAMPLE FEEDBACK DOCUMENT

Dear XXXXXXX,

I understand you made use of your course resources and Gragery's book to give details about classroom management concepts. Thank you very much. You do not have to put your own course materials in your portfolio.

In your observation report you seem to describe only the structure of the classroom rather than then interpret it regarding functions in classroom management. I think such approach might be more meaningful. Your flections light a depressive classroom, with dim light could indicate a psychological insecurity perhaps. I agree to the degree that the action zone of the teacher is very effective.

When you are dealing with peer evaluation, it is important that the evaluations provided lead to further development. The presentation of the material or concept, the posture of the person, additional examples provided relevant to subject matter are all indicators for evaluations. Of course, it is important that you come up with constructive feedback so that this will lead to improvement. You may even discuss suggestions that you provide.

I understand that it is clear to you how to write a reflection report. You first mention about your earlier conceptual knowledge and reflect how this changed or developed with the interactions realized with peers and the teacher and relate these to your new understanding of "order" as in this case. Also, the resources you read influenced you. I am glad to see this. Nevertheless, you write that your friends made you think from different perspectives, but you do not indicate what they are. I suggest that writing these will make your reflections more meaningful.

Your reflections on the physical environment you try to relate the activities and all the points discussed in class to your authentic context. I really appreciate that. Also, could to know what activities were more effective and worked well.

On the checklist for poster evaluation, rather than saying "space is enough", you could give more constructive explanation, for instance, the space in the middle of the classroom provides opportunities to fulfill demonstration/role playing type of activities.

For rules and routines the statements that you provided are useful and necessary. Actually, I would try to avoid NOT statements. Saying: "Everybody should have their own erasers." Seems to be more helpful. What do you think? Thank you for the summary, but whare are your reflections based on your readings and class discussions?

Thank you ☺

H. Akar

Ps: You do not need to put your own course materials in your portfolio.

APPENDIX F

OPEN-ENDED QUESTIONNAIRE

A) Experimental Group
EDS 304 Section: **(1)** **(2)** **(3)** **(4)**
Gender: **a) Male** **b) Female**
CGPA: _____

Dear friends,
The purpose of this questionnaire is to obtain your perceptions about the course you attend _ EDS 304, Classroom Management. Please note that this questionnaire is conducted only for research purposes. Your sincere answers to each question will give a broad understanding of students' perceptions about EDS 304, and in return will contribute to its improvement. It is hoped that this will both influence present students taking this course and the students of subsequent years. You may either respond in Turkish or English, please feel free. You may use all the blank spaces you see, additional sheets may be used in case of need. If there is any other aspects that you would like to share or consult, you may contact me from the following e-mail address or phone numbers.

Thank you for your cooperation ☺
Hanife Akar
hanife@tutor.fedu.metu.edu.tr
Tel: (312) 210 40 97

1. What were your perceptions about EDS 304 before taking it (positive, negative, neutral)? Are your expectations being fulfilled? Please explain.

2. How do you perceive the roles you have in this course (before the session starts, during the session, and after the session)? Give details

3. What were your goals in taking EDS 304? Have they been fulfilled? Please, explain.

4. To what extent do you think that the goals of the course are being enhanced? What evidence can you give related to that? Please, explain.

5. To what extent do you think that you take part in decision-making in the course? In other words, to what extent do you think that you own the course? Give evidences for your accounts.

6. How do you like the resources used in EDS 403 course (e.g., language, clarity, length, appropriateness, interest, educative) regarding a:

   a) Compulsory readings for each week?

   b) Supplementary readings and activities?

7. What type of course notes would you prefer in general for EDS 304 sessions? Please explain.

8. What do you think about the instructional delivery (methods and techniques) used in EDS 304 sessions (e.g., use of group work, pair work, case studies, simulations, library search, sharing of experiences, group discussions,)? Please, give details.

9. What motivates you most in this course? In other words, what are the positive aspects you observed in this course? Please, give details.

10. What discourages you most in this course? In other words, what are the negative aspects you observed in this course? Please, give details.

11. How do you think keeping a portfolio contributes to your learning? What do you like and/or not like about keeping a portfolio? What influences the content of your portfolio? Please explain.

12. Please, explain any suggestions you have on how we might improve keeping a portfolio to improve our learning?

13. What do you think about the evaluation methods used up to now (e.g., student-based Midterm, peer evaluation techniques, portfolio evaluation)? Do you have any alternative suggestions? Please, give reasons for your explanations.

14. How do you study for this course? Has this course changed your learning or studying style? Please, explain.

15. Is there anything else that you consider as important and has not been mentioned (issues to be included or excluded in EDS 04)?

B) Control Goup

EDS 304 Section: **(1)** **(2)** **(3)** **(4)**
Gender: **a) Male** **b) Female**
CGPA: _____

Dear friends,
The purpose of this questionnaire is to obtain your perceptions about the course you attend _ EDS 304, Classroom Management. Please note that this questionnaire is conducted only for research purposes. Your sincere answers to each question will give a broad understanding of students' perceptions about EDS 304, and in return will contribute to its improvement. It is hoped that this will both influence present students taking this course and the students of subsequent years. You may either respond in **Turkish** or **English**, please feel free. You may use all the blank spaces you see, additional sheets may be used in case of need. If there is any other aspects that you would like to share or consult, you may contact me from the following e-mail address or phone numbers.

Thank you for your cooperation ☺
Hanife Akar
hanife@tutor.fedu.metu.edu.tr
Tel: (312) 210 40 97

1. What were your perceptions about EDS 304 before taking it (positive, negative, neutral)? Are your expectations being fulfilled? Please explain.

2. How do you perceive the roles you have in this course (before the session starts, during the session, and after the session)? Give details

3. What were your goals in taking EDS 304? Have they been fulfilled? Please, explain.

4. To what extent do you think that the goals of the course are being enhanced? What evidence can you give related to that? Please, explain.

5. To what extent do you think that you take part in decision-making in the course? In other words, to what extent do you think that you own the course? Give evidences for your accounts.

6. How do you like the resources used in EDS 403 course (e.g., language, clarity, length, appropriateness, interest, educative) regarding a:

   c) Compulsory readings for each week?

   d) Supplementary readings and activities?

7. What type of course notes would you prefer in general for EDS 304 sessions? Please explain.

8. What do you think about the instructional delivery (methods and techniques) used in EDS 304 sessions (e.g., use of case studies, library search, sharing of experiences, group discussions,)? Please, give details.

9. What motivates you most in this course? In other words, what are the positive aspects you observed in this course? Please, give details.

10. What discourages you most in this course? In other words, what are the negative aspects you observed in this course? Please, give details.

11. What do you think about the evaluation methods used up to now (e.g., student-based Midterm)? What alternative suggestions do you have?

12. How do you study for this course? Has this course changed your learning or studying style? Please, explain.

13. Is there anything else that you consider as important and has not been mentioned (issues to be included or excluded in EDS 04)?

APPENDIX G

FORMATIVE INTERVIEW SCHEDULE

Date: .....
Duration: .....
Group: .....

Merhaba arkadaşlar,
Amacım sizin almakta olduğunuz EDS 304, sınıf yönetimi dersi ile ilgili sizin algılarınızı anlamaktır. Bu görüşme sadece araştırma amaçlı yapılmaktadır. Bu yüzden bütün süreç gizli tutulacaktır. Sizin vereceğiniz samimi yanıtlar, bu dersin gelişmesine dolayısıyla da size ve sizden sonra bu dersi alacak olan arkadaşlarınızın sınıf yöntemini öğrenmelerine kattı sağlayacaktır.

1. Eğer izin verirseniz görüşmeyi kayıt etmek istiyorum. Bu önemli bir ayrıntıyı kaçırmamama yardımcı olacaktır. Daha önce de dediğim gibi bu görüşme gizli tutulacaktır.
2. Hangi dilde (İngilizce ya da Türkçe) rahat his ederseniz öyle cevaplayabilirsiniz.
3. Sizin sormak istediğiniz bir şey var mı?

Hazırsanız sorularımıza başlayalım.

<u>Giriş</u>

1. Daha önce EDS 304 dersini alanınız oldu mu?
    a. Ne zaman
    b. Bu derse karşı tutumunuz neydi?

Görüşme soruları

2. Bu dersi almadan önce bu ders hakkında neler düşünüyordunuz? Yaklaşımınız olumlu, olumsuz, yorumsuz (neutral) muydu?
    a. Beklentileriniz karşılandı mı? (fulfilled)

3. Bu dersi alırken hedefleriniz nelerdi?
    a. Sınıf yönetimini etkili öğrenme için uygulamayı öğrenme
    b. Disiplin sorunlarıyla baş etme, vb
4. Hedefleriniz ne dereceye kadar karşılandığını düşünüyorsunuz?
    a. Bu dersi alırken kendinize yeni hedefler belirlediniz mi?

5. Dersin kendi hedeflerine ne derece ulaşıldığını düşünüyorsunuz? (course outline)

6. Bu derste ne derecede karar verme sürecine katıldığınızı düşünüyorsunuz?

    a. Sınıfta tercihler yapma
    b. Ders ile ilgili yön/yöntem saptama, öğrenilecek konuya ait derinlik belirleme
    c. Sınıf yönetimi konusunda unsurlar ya da olguları saptama ve bunları anlatma, ya da paylaşım ortamları sağlama
    d. Araştırmaya yönelik kararlar verme:
        i. Problemin varlığının bilincinde olma (awareness)
        ii. Problemin tanımlanması
        iii. Alternatiflerin/çözümlerin tanımlanması ve değerlendirilmesi

7. Derste kullandığınız kaynaklar hakkında neler düşünüyorsunuz?
    a. Haftalık zorunlu okumalar
    b. Ek okuma/alıştırmalar
        i. Dili
        ii. Açıklığı
        iii. Uzunluğu
        iv. Uygunluğu
        v. Eğitimsel yönü

8. Bu derste (EDS 304) kullanılan öğretim yöntem ve teknikleri hakkında neler düşünüyorsunuz?
    a. Grup calışmaları
    b. Kubaşık (cooperative) öğrenme ortamları
    c. Vaka çözümlemeleri (case studies)
    d. Sunumlar, simulasyonlar, kütüphane taraması, grup tartışmaları

9. Sizce bu ders sizin öğrenme ve ders çalışma tarzını değiştirdi mi?
    a. EDS dersi için eskiden nasıl hazırlanırdınız? Şimdi farklı bir yöntem mi kullanıyorsunuz? Bunu etkileyen unsurlar nelerdir?

10. Bu derste sizi motive eden unsurlar nelerdir?

11. Sizin şevkinizi kıran (discourage) unsurlar nelerdir?

12. Şimdiye kadar yapılan değerlendirme konusundaki düşünceleriniz nelerdir?
    a. Ara sınavın (Midterm) sizlerin sorularıyla hazırlanması
    b. Peer evaluation/self-evaluation tekniklerinin kulllanılması (kendini ve arkadaşını değerlendirme)
    c. Portföy değerlendirme

13. Sizce portföy hazırlama öğrenmenizi nasıl etkiliyor?
    a. Portföy hazırlama konusunda neleri seviyor/sevmiyorsunuz
    b. Portföyünüzün içeriğini neler etkilemekte? Lütfen ayrıntılı olarak açıklayınız
    c. Portföy çalışmasının nasıl olması gerektiği konusunda bize ne tür öneriler getirebilirsiniz?
        i. Sizin öğrenmenizi daha etkin kılmak için neler yapılabilir

14. Sizce EDS 304 dersinin değerlendirmesi nasıl yapılmalıdır?
    a. Bu ders ile ilgili performansınız nasıl değerlendirilmelidir? Önerileriniz nelerdir? Lütfen sebeplerinizi de açıklayınız.

Sonuç

15. Sizin önemli olduğunu düşündüğünüz fakat burada sözünü etmediğimiz/değinmediğimiz unsurlar var mı? Bizi bilgilendirmeniz bizi yararlı olacaktır.

Bu görüşme gerçekten de çok yayarlı oldu. Hem sizin bu dersle ilgili algılarınızı öğrenmemiz hem bu dersin nasıl daha etkin hale getirebilmemiz konusunda bizim için çok yararlı oldu. Eğer şu an aklınıza gelmeyip, sonra paylaşmak istediğiniz bir durum olursa sizinle haberleşmek isterim. Ayrıca, dönem sonunda izin verirseniz sizinle tekrar bir görüşme yamak isterim. Teşekkür ederim.

English Version of the Formative Interview

Dear student,
My purpose is to obtain your perceptions about the course you attend _ EDS 304, Classroom Management. Please note that this interview is conducted only for research purposes. Therefore, the whole process will be kept confidential. Your sincere answers to each question will help us to understand your perceptions about EDS 304, and in return this will contribute to its improvement. I am confident that this interview will contribute much to Classroom Mangement Course this year, and for the forthcoming years.

1. If you don't mind I would like to record the whole concersation. As I said before it will be confidential, your names will not be publicised anywhere.
2. You may either respond in Turkish or English, please feel free.
3. Are there any questions that you would like to ask me? I'd be happy to answer them.

The Interview

1. Has any of you taken this course (EDS 304) before?
    a. When?, What was your attitude towards the course?
2. What were your perceptions about EDS 304 before you took the course?
    a. Positive, Negative, , Neutral, Have your expectations being fulfilled.
3. What were your goals in taking EDS 304?
    a. Learning about the role of classroom management for effective learning and teaching environments; Coping with discipline problems, etc.;
    b. Have your goals been fulfilled?
    *What new aspects have you learned that you disregarded as classroom management
4. To what extent do you think that the goals of the course are being enhanced?

5. To what extent do you think that you take part in decision-making in the course? To what extent do you think that you own the course?
   a. making choices in class
   b. selecting a direction or scope of issues being learned (presenting or explaining an aspect based on classroom management
   c. research –based decision making
      *problem awareness, problem definition, developing and evaluating alternatives.
6. How do you like the resources (compulsory and supplementary) used in EDS 403 course
      *language, clarity, length, appropriateness, interest, educative)
7. What do you think about the instructional delivery (methods and techniques) used in EDS 304 sessions
      *group work, pair work, case studies, Presentations or simulations, library search, sharing of experiences, group discussions
      *What motivates you most in this course? What discourages you most in this course?
8. How do you study for this course? Has this course changed your learning or studying style? Please, explain.
      a. How did you used to study for EDS courses? Do you study differently now? What influenced this?
      b. Have you acquired a new learning style?
9. How do you prepare your portfolio?
      a. Individually, Consult peers, Discuss/share content with peers
10. How do you think keeping a portfolio contributes to your learning?
      a. What do you like and/or not like about keeping a portfolio?
      b. What influences the content of your portfolio? Please explain.
11. What suggestions can you provide us to improve keeping a portfolio?
      a. For you to learn better, how should portfolio preparation be done?
12. What do you think about the evaluation methods used up to now?
      a. student-based Midterm, peer / self-evaluation techniques, portfolio assessment,
13. How do you think we should be evaluated in EDS 304
      a. What alternative suggestions do you have for evaluating your performance in EDS 304? Give reasons for your explanations.

<u>Conclusion</u>

14. Is there anything else that you consider as important and has not been mentioned, I really would appreciate if you shared them with us.

This talk has really been very helpful for me. I belief your sincere reflections will contribute to the improvement of the present EDS 304 course. Thank you very much. And please, if there occurs to be new aspects that you like to share to me, you may contact me (or your teacher) so that we can keep in touch.

APPENDIX H

SUMMATIVE INTERVIEW SCHEDULE

Merhaba arkadaşlar,
Bu görüşmenin amacı almış olduğunuz EDS304 Sınıf Yönetimi dersi ile ilgili sizin algılarınızı anlamak ve son bir değerlendirmede bulunmaktır. Bu görüşme sadece araştırma amaçlı yapılmaktadır. Dolayısıyla adlarınız gizli tutulacaktır. Vereceğiniz samimi yanıtlar, bu dersin gelişmesine yani sizden sonra bu dersi alacak olan arkadaşlarınızın sınıf yönetimini öğrenmelerine katkı sağlayacaktır.

1. Eğer izin verirseniz görüşmeyi kaydetmek istiyorum. Bu kayıt, daha sonraları önemli ayrıntıları kaçırmamaya yöneliktir.
2. Sormak istediğiniz bir konu varsa cevaplamaya hazırım.

Görüşme Soruları:

1 Bu dersin hedefleri sizin hedeflerinizle örtüştü mü? Hedeflerinizin ne dereceye kadar gerçekleştiğini düşünüyorsunuz?

   a. Sınıf yönetimini etkili öğrenme için uygulamayı öğrenme
   b. Disiplin sorunlarıyla baş etme vb.

2 Dersin kendi hedeflerine ne derece ulaşıldığını düşünüyorsunuz?

İçerik

1. Bu dersin içeriği sizin beklentileriniz ile uyum içinde mi?
2. Öğretmen olduğunuzda işinize yarayacağını düşünüyor musunuz?
3. Hatırlayacağınız gibi, öğrenme ve öğretme yaklaşımları, yöntemleri ve diğer tercihlerinize ilişkin konuları bireysel veya grup olarak sınıfta sizler belirlemiştiniz. Bu tercihlerin, sizin öğrenim sürecine katılmanız üzerinde ne gibi bir etkisi oldu? Sizce bunların zayıf ve güçlü yönleri nelerdir?
   i. Grup çalışmaları
   ii. Kubaşık (cooperative) öğrenme ortamları
   iii. Örnek olay çözümlemeleri (case studies)
   iv. Sunumlar, rol oynama
   v. Misafir öğretmen
   vi. Video kaydı

4. Bu deneyimlerin size ne gibi bir getirisi oldu?
   a. Örn. Sınıfta yaptığınız sunum/ rol oynama/ akran öğrenimi/ değerlendirme vb gibi etkinlikler... Diğer derslerinizle karşılaştırdığınızda bu ders ile ilgili olarak neler düşünüyorsunuz?
   b. Ortama ilişkin algılarınız nelerdir?

c. Tercihlerinizin sorulmasının, birey olarak size ne gibi bir anlamı vardır?

5. Bu yaklaşımlar sizin öğrenme/ders çalışma tarzınızı değiştirdi mi? *Eskiden nasıl hazırlanırdınız? Şimdi farklı bir yöntem mi kullanıyorsunuz? Bunu etkileyen unsurlar nelerdir?

6. Portföyleriniz öğrenmenizi nasıl etkiledi?
   a. Portföy hazırlama konusunda neleri seviyorsunuz/sevmiyorsunuz?
   b. Portföyünüzün içeriğini neler etkilemektedir? Lütfen ayrıntılı olarak açıklayınız.
   c. Portföy çalışmasının nasıl olması gerektiği konusunda bize ne tür öneriler getirebilirsiniz?
      *Öğrenmenizi daha etkin kılmak için neler yapılabilir?

   d. Öz değerlendirme ve akran değerlendirme konusunda algılarınız nelerdir? Sizce bunlar öğrenme sürecinize nasıl etkiledi? Bu konudaki önerileriniz nelerdir?

7. 4EDS 304 dersinin değerlendirilmesi sizce nasıl yapılmalıdır?
   *Bu ders ile ilgili performansınız nasıl değerlendirilmelidir? Önerileriniz nelerdir? Lütfen nedenlerini de açıklayınız.

Sonuç

8. Önemli olduğunu düşündüğünüz fakat burada sözünü edilmeyen unsurlar var mı? Varsa bunlar bize yararlı olacaktır.

Bu görüşme, hem sizin bu dersle ilgili algılarınızı öğrenmemiz, hem de dersin nasıl daha etkin kılınabileceği hem de değerlendirme sürecinin nasıl daha etkin olabileceği konusunda gerçekten çok yararlı oldu. Teşekkür ederim.

English Version of the Formative Interview

Dear student,
My purpose is to obtain your perceptions about the course you attend _ EDS 304, Classroom Management. Please note that this interview is conducted only for research purposes. Therefore, the whole process will be kept confidential. Your sincere answers to each question will help us to understand your perceptions about EDS 304, and in return this will contribute to its improvement. I am confident that this interview will contribute much to Classroom Mangement Course this in the following years.

4. If you don't mind I would like to record the whole concersation. As I said before it will be confidential, your names will not be publicised anywhere.
5. You may either respond in Turkish or English, please feel free.
6. Are there any questions that you would like to ask me? I'd be happy to answer them.

The Interview

1. What were your goals in taking EDS 304? Have your goals been fulfilled?
    a. Learning about the role of classroom management for effective learning and teaching environments.
    b. Coping with discipline problems, etc.
2. Was the content of CMC in line with your expectations?
    *Do you believe that the content you undertook will contribute to your future practice as a teacher?
3. As you may remember in the earlier interviews, you were asked to take part in the decision-making about the methods and techniques used in CMC. How did those contribute to your learning process?
    a. Group activities
    b. Collaboration
    c. Case studies, Presentations and role plays
    d. Talks with guest speaker
    e. Authentic video-recordings
4. Have those methods caused a change in your learning style?
    a. How do you study for this course? Has this course changed your learning or studying style? Please, explain.
    b. How did you used to study for EDS courses? Do you study differently now? What influenced this?
    c. Have you acquired a new learning style?
5. How do you prepare your portfolio?
    *Individually, Consult peers, Discuss/share content with peers
6. How did portfolio preparation contribute to your learning? Please, explain.
    a. What do you like and/or not like about keeping a portfolio?
    b. What influences the content of your portfolio? Please explain.
7. What suggestions can you provide us to improve keeping a portfolio?
    * For you to learn better, how should portfolio preparation be done?
8. What do you think about the alternative evaluation methods used up to now?
    *Peer evaluation and self-evaluation techniques.
9. How do you think we should be evaluated in EDS 304
    *What alternative suggestions do you have for evaluating your performance in EDS 304? Give reasons for your explanations.

Conclusion

10. Is there anything else that you consider as important and has not been mentioned, I really would appreciate if you shared them with us.

This talk has really been very helpful for me. I belief your sincere reflections will contribute to the improvement of the present EDS 304 course. Thank you very much. And please, if there occurs to be new aspects that you like to share to me, you may contact me (or your teacher) so that we can keep in touch.

APPENDIX I

SCORING RUBRIC

Use the following rating scale for the evaluating long answers for each essay.

1 = weak 2 = average 3 = good 4 = very good

Student ID number:

1. Identifies CM aspects (knowledge).	1	2	3	4
2. Relates CM aspects to theory.				
3. Provides strategies to cope with problem(s).				
4. Evaluates the situation.				
5. Suggests alternatives to avoid potential problems.				
6. Provides a critical analysis between instructionand CM.				

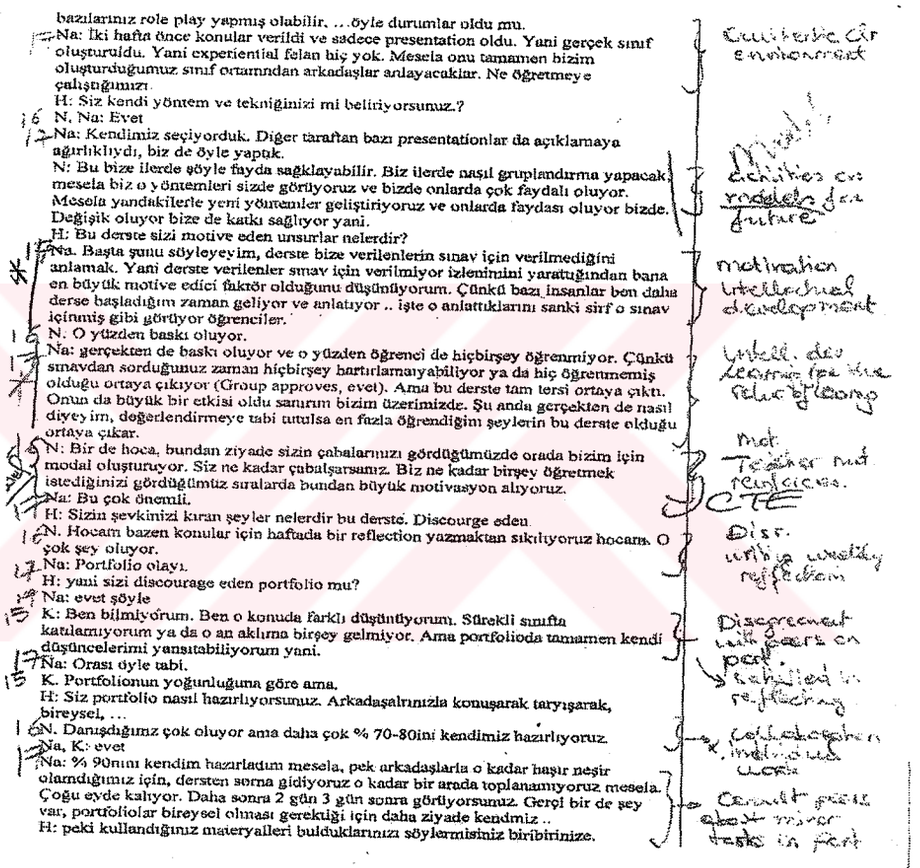
APPENDIX J

METAPHORICAL RELIABILITY DOCUMENT

contact with one and other 26	achieve/interaction
27	Scuba diving (71) strategies for effectiveness/ T with good planning skills
Shopping center (73) store for essential information 28	Hyper store (73) diversity, organization, pleasure, clothing cabinet
Car (75) one missing mechanism hinders operation 29	Conductor (75) who operates collaboratively with car.
Tree (64) branches and leaves colla 30	Tree (64) diverse branches from setting rules to gaining student cooperation
Orchestra (22) wrong tune spoils the harmony 31	Orchestra (22) diversity of instruments can handled regarding
Leadership (32) lead ss 32	House (32) order & interactions
Cooking (43) treat differently regarding diversity of ss 33	Cook (43) organization and care regarding differences
Box of Pandora's (42) handle professionally 34	Box of Pandora's (42) foundations help professional treatment
Orchestra (29) conductor organizes harmony 35	Changed perceptions
Shopping center (96) tidy and neat 36	Shopping center (96) well-organized, no contradictory or confusing issues
Chain (78) links forms of teaching 37	Chain (78) links & provides endurance, goals fulfillment, efficient use of materials
Plus (70) kavram kargasasi 38	
Lion (116) T as manager 39	Traffic policeman (116) clear rules, safe env., responsibility on ss
Cooking (89) patience and care for diversity/ trial error method 40	Cooking (89) organization, cooperation with experts and parents
Theater play (94) T director/manager and ss player 41	Theater play (94) ss t collaborate for effectiveness of ling & ting
Tree (72) teacher transfers knowledge to branches/ provides order 42	Tree (72) diversity, s/t collaboration. Both are parts of very part
Cook (95) classr. Course is a cookbook 43	Cook (95) strategies help coping and provide ways for decision-making
White (76) unknown to be discovered 44	Playing the piano (76) expertise, practice, effectiveness
Boss (92) loving caring T 45	(Boss (92) collaborative, gain ss cooperation, decision-maker regarding context
Theater play (77) T plays/ ss are audience effected emotionally & mentally 46	
Football play (93) team game, responsibilities shared 47	Football play (93) multiple roles for ss. Ts, cooperation key role
Garden (85) gardener knows the foundations 48	Garden (85) gardener holds arawness of diverse ss needs, knows about physical arrangement

APPENDIX K

SAMPLE INTERVIEW CODES


bazılarınız role play yapmış olabilir, ...öyle durumlar oldu mu.
Na: İki hafta önce konular verildi ve sadece presentation oldu. Yani gerçek sınıf oluşturuldu. Yani experiential falan hiç yok. Mesela onu tamamen bizim oluşturduğumuz sınıf ortamından arkadaşlar anlayacaklar. Ne öğretmeye çalıştığımızı.
H: Siz kendi yöntem ve tekniğinizi mi belirliyorsunuz.?
N, Na: Evet
Na: Kendimiz seçiyorduk. Diğer taraftan bazı presentationlar da açıklamaya ağırlıklıydı, biz de öyle yaptık.
N: Bu bize ilerde şöyle fayda sağlayabilir. Biz ilerde nasıl gruplandırma yapacak mesela biz o yöntemleri sizde görüyoruz ve bizde onlarda çok faydalı oluyor. Mesela yandakilerle yeni yöntemler geliştiriyoruz ve onlarda faydası oluyor bizde. Değişik oluyor bize de katkı sağlıyor yani.
H: Bu derste sizi motive eden unsurlar nelerdir?
Na. Başta şunu söyleyeyim, derste bize verilenlerin sınav için verilmediğini anlamak. Yani derste verilenler sınav için verilmiyor izleniminii yaratığından bana en büyük motive edici faktör olduğunu düşünüyorum. Çünkü bazı insanlar ben daha derse başladığım zaman geliyor ve anlatıyor .. işte o anlattıklarını sanki sırf o sınav içinmiş gibi görüyor öğrenciler.
N. O yüzden baskı oluyor.
Na: gerçekten de baskı oluyor ve o yüzden öğrenci de hiçbirşey öğrenmiyor. Çünkü sınavdan sorduğunuz zaman hiçbirşey hartırlamayabiliyor ya da hiç öğretmemiş olduğu ortaya çıkıyor (Group approves, evet). Ama bu derste tam tersi ortaya çıktı. Onun da büyük bir etkisi oldu sanırım bizim üzerimizde. Şu anda gerçekten de nasıl diyeyim, değerlendirmeye tabi tutulsa en fazla öğrendiğim şeylerin bu derste olduğu ortaya çıkar.
N: Bir de hoca, bundan ziyade sizin çabalarınızı gördüğümüzde orada bizim için modal oluşturuyor. Siz ne kadar çabalşarsanız. Biz ne kadar birşey öğretmek istediğinizi gördüğümüz sıralarda bundan büyük motivasyon alıyoruz.
Na: Bu çok önemli.
H: Sizin şevkinizi kıran şeyler nelerdir bu derste. Discourge eden
N. Hocam bazen konular için haftada bir reflection yazmaktan sıkılıyoruz hocam. O çok şey oluyor.
Na: Portfolio olayı.
H: yani sizi discourage eden portfolio mu?
Na: evet şöyle
K: Ben bilmiyorum. Ben o konuda farklı düşünüyorum. Sürekli sınıfta katılamıyorum ya da o an aklıma birşey gelmiyor. Ama portfolioda tamamen kendi düşüncelerimi yansıtabiliyorum yani.
Na: Orası öyle tabi.
K. Portfolionun yoğunluğuna göre ama.
H: Siz portfolio nasıl hazırlıyorsunuz. Arkadaşlarınızla konuşarak taryışarak, bireysel, ...
N. Danışdığımız çok oluyor ama daha çok % 70-80ini kendimiz hazırlıyoruz.
Na, K: evet
Na: % 90ını kendim hazırladım mesela, pek arkadaşlarla o kadar haşır neşir olamdığımız için, dersten sonra gidiyoruz o kadar bir arada toplanamıyoruz mesela. Çoğu eyde kalıyor. Daha sonra 2 gün 3 gün sonra görüyorsunuz. Gerçi bir de şey var, portfoliolar bireysel olması gerektiği için daha ziyade kendmiz ..
H: peki kullandığınız materyalleri bulduklarınızı söylermisiniz biribirinize.

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APPENDIX L

SAMPLE THEMATIC CODING CHECK

Perceptions about CM	Conceptual change	Field practice
Past Positive-Negative P1; h13.3; h12.15 Neutral: p6.8; h13.12	New perceptions about CM P1; h13.12; h13.12; h13.13; h20.17	Lack of field practice p.1-3; p12.6; h21.15 Field practice: h24.15
Present Positive-Negative P1; Positive: p6.8	New instructional ideas P1.; h13.14; h20.17	Need for cultural specific knowledge: p2.5; p2.3;
Fulfillment of expectations P1; p7.8; p8.8; h20.16; h24.16	Ownership of learning: p1.5; p2.3; p4.5; p8.8; p10.8; h21.17; h21.16 Integrating pedagogical knowledge with development: p1.5; Autonomy: p2.4; p2.3	Authenticity Lack of Authenticity: p2.3; h21.16
	Top-down CM: p3.5	
Learning environment	**Learner-centeredness**	**Decision-making**
Constructivist learning activities: Groupwork: p3.5; p3.3; p3.4; p22.15; h22.16 Case Studies: p1.5; p2.3; p2.5; Student presentations: p1.8; h15.6 Variety: p3.4 Prepare for future: p4.4 No lecturing: p9.6	Flaws: p2.3 More groupwork: p3.3; No treaths: p3.3 Perceive onself as teacher: p10.8; p10.6 Peer eval = Subjective: p12.6; h18.6; h19.6; h19.12 Self eval = Object: p12.8	Questions decision-making: p2.3; p8.9; p8.6; p8.10; h15.12
Critical Thinking: p2.3; P10.6; h16.14; h17.6 Active learning: p6.5; H23.17	Cooperative: h14.16 Overcrowding: h14.12	**Suggestions** More visuals: h15.12 Reflective writing in class: h19.12 Guest speaker: h19.6 Video-cases: h12.17 Clear guidelines: h24.17

APPENDIX M

SAMPLE UNIT PLAN

WEEK 2: Introduction & Basic Concepts in Classroom Management

Rationale

This is an introductory unit for classroom management. There are several dimensions that include this unit: (1) getting acquainted with learners; (2), exploring the goals of the course so that learners can take ownership of their learning; (3) providing learners with a learning environment that is conducive to effective classroom management; (4) exploring and discussing the basic concepts and principles in classroom management; (5) providing a constructivist learning environment in which learners construct the physical environment they are in including their seating arrangements, formulating rules and routines.

Goals and Objectives of the Unit

Lower-level cognitive outcomes

1. States the essence of effective classroom management in schooling
   1.1. Explores concepts essential in classroom management
   1.2. Identifies the importance of CM in teacher education
   1.3. Interprets its essence in enhancing a healthy learning environment
   1.4. Estimates the importance of CM and enhancing student achievement and motivation

Higher-level cognitive outcomes

2. Formulates the goals of the course
   2.1. Identifies course goals
   2.2. Identifies CM topics to be studied
   2.3. Infers CM concepts

Affective Outcomes

3. Participates in formulating course objectives
   3.1. Appreciates learning about CM
   3.2. Seeks ways to organize the physical environment
   3.3. Values peers' ideas
   3.4. Carries responsibility in establishing an effective learning environment

Performance outcomes

4. Produces a CM poster and a concept map
   4.1. Draws concepts that relate to CM
   4.2. Writes a concept map on CM
   4.3. Demonstrates effective seating arrangement

SESSION 1

Time: 2 x 50 minutes
Number of students: 34
Strategies: group discussion, cooperative work, brainstorming, concept mapping.

Content

Since this is the first session, both parties will meet.

Materials

Slips of colored paper (5 X 7 slips with different colors), colorful markers, blank pieces of paper, sample concept map on OHT, poster, whiteboard

Procedures

Warm-up/get together period: (20 mins)

1. Teacher (T) introduces herself. Tells how many hours they will be together each week.
2. Wants students to introduce themselves. Nevertheless, before they start introducing themselves, asks the following

Introduction

3. Asks how the seating arrangement of the classroom could be changed to hear and see each other more properly, elicits from students how they may rearrange the desks so that they can create an interactive group. Asks for reasons.
4. Helps students to arrange the desks in a semi-circle, and asks where she should sit, and why they think so. Joins them by the end (tail) of the semi—circle. (While students arrange their seating there may be much noise, T asks how they can handle to diminish the noise factor, SS decide to lift the desks when arranging groups and etc.) (rule setting for grouping arrangements could be a nice model)

Introducing oneself

5. Students' have to think about a metaphor that may reflect their feelings, beliefs or attitude towards the course. (e.g., this course is like a refrigerator. Each time I want to think of effective CM skills, I will make use of the resources we have), and write it on a peace of paper.
   QS. What metaphors or images do come to your mind when you think about classroom management? Why do you associate that particular metaphor with classroom management?
6. Students introduce themselves regarding the metaphor, and reflect on the images as a group. Learners reflect on their past/present experiences and relate it to the metaphor.
7. Metaphors are kept in their portfolios for an end term activity.
8. Students prepare a concept map.
9. T: Elicit how it is prepared. Show sample on OHT 1 if necessary. (school, principals, students, teachers)
10. Students draw a concept map that describes the components or dimensions of classroom management regarding their expectations from EDS 304: what they hope to learn and experience, and their expectations in general the mid point is classroom management course.

Sharing of Ideas and Goal setting

11. T: distributes colored slips (groups of 5 students, different color for each group).
12. Learners are expected to write their names and metaphors on it (a name tack).
13. Learners with similar colored name tacks construct a group of 5 students.
14. After students are seated they need to share their metaphors and concept maps and give details (1 minute for each. 5 mins total). After 5 minutes, the teacher shakes the bell to have the students stop discussing.
15. Dimensions in the concept map are revealed to the teacher.
16. T draws a circle in the middle of a blank OHT, and elicits information about similar concepts/dimensions emerged during group discussions. (Tips for the instructor: it is better if you draw the concept may based on students' instructions. It might be nice to put similar components together, unless students suggest differently)
17. Whole class (based on group work) construct a concept map.
18. Learners share how much their concept map relates to the entire groups'. The aim is to show that learners took the ownership of content selection and goal setting
19. Students focus to those goals and relate it tot the content of the course.

Development

20. Learners form a group and think of all aspects that may relate to effective classroom management. Learners should engage in discussion and sharing past on experiences.
21. T: distributes posters, and color markers.

22. Students draw a model of effective classroom management (15 mins); students illustrate their names (metaphors) of students in the group.
23. Students hang their posters to share with other groups. (Students pay visit to other posters while there is a representative of each poster. The representative has to give details on what they think an effective classroom looks like. (1-2 mins each group).
24. T: explains that students may think of pictures, photos or materials that may be attached to the poster in latter sessions, and that they can do rearrangements to improve it. This is a mobile poster that will be brought in class in few other practice hours based on observations, readings, and reflections.

Assignment 1: T introduces basic classroom management concepts and asks learners to search for their meanings from a list of references provided (and put them in their journals for the forthcoming session) (OHT 2: concepts). Students have to think of a 1 or 2-minute talk or activity for each. Also, reminds students to write their reflections based on the first session. What do they expect to learn? How are their perceptions different or similar?

Conclusion

25. Teacher distributes the course outline. Students overview the schedule of content and activities. Students read the goals of the course, evaluation processes. Students' relate class' concept maps so that ownership of goal setting is evident. They work in pairs so that they can relate the objectives of the course with the items they are required to prepare. Learners need to be informed about the diary keeping procedure. Tell them to put their first concept map (not modified) into their diaries, and keep it there throughout the semester for another end term activity.

APPENDIX N

PORTFOLIO GUIDE

Guidelines for Preparing a Portfolio

Portfolio assessment is becoming more and more popular in educational circles in recent years because of its strengths in taking into account various types of experiences and reflective thinking in the learning process. A portfolio is an organized, goal-driven documentation of your growth and achieved competence in the area of classroom management. It presents tangible evidence of the wide range of knowledge, dispositions, and skills that you possess as a growing teacher candidate. Documents in the portfolio are mainly self-selected, reflecting your individuality and autonomy.

A portfolio is characterized by your ongoing systematic collection of selected work in the course and course related activities. This collection would form a framework for self-assessment and goal setting. At the same time, your selection of work would best reflect your achieved competence, individuality, resourcefulness, effort and creativity as a prospective teacher.

Through the collected and produced documents in the portfolio, students are expected to demonstrate competence in the areas indicated in the left column of the table below. Some potential sources of evidence of competence in these areas are included in the right column below as examples. You may decide which additional ones to include from among the other examples in your portfolio, and you may also come up with new ideas and sources as long as they prove themselves as potential sources of evidence for the areas of competence indicated. Keeping in mind that it is difficult to give specific guidelines or to determine the total number of documents in shaping a portfolio, you may be advised to have around 3-5 sources of evidence in your portfolio.

Areas of Competence	Potential Sources of Evidence
1. Understand the main concepts, principles, and dimensions of classroom management and reflect these in problem solving tasks. 2. Design tasks to help students improve, and develop strategies in establishing and maintaining a healthy learning environment. Set tasks to: 2.1 Manage time. 2.2 Organize seatwork, groupwork, and	* Reflections after each topic on classroom management (1-2 pages, NOT MORE!). Guiding questions for writing reflections: • A critical brief summary of the section's main points (1 or 2 paragraphs), relate these to own experiences and observations • Any interesting, "food of thought" type of statements or research

pairwork 2.3 Organize the physical environment: raising belongingness and self-esteem among learners 2.4 Lead recitations and discussions 3. Identify clear rules and routines to maintain order in the class 3.1 Select and teach classroom rules and procedures 3.2 Identify ways to hold students academically accountable 4. Help students maintain interest and promote success in the lesson 4.1 Identify factors that contribute to the complex nature of motivation 4.2 Select techniques that express interest in the content, project enthusiasm, and provide feedback and rewards for performance 4.3 Select motivational techniques for beginning a lesson, during a lesson, ending a lesson 5. Understand, and identify misbehavior in classroom environment: 5.1 Recognize misbehavior needs to be seen in the context of the circumstances 5.2 Determine ways to apply mild, moderate, and severe responses to misbehavior 6. Understand parental support in maintaining effective learning 6.1. Identify ways for contacting and interacting with parents 6.2. Determine ways that a parental support system can be developed	findings? How these influenced m y thoughts, my thinking about the main points being made in the reading? • What influences change my beliefs (discussion, authentic tasks, materials, research, etc.)? How does interaction with my peers/teacher attribute to my learning and/or change my understanding? * * A lesson plan for the first day including motivational activities that builds self-esteem, belongingness or relatedness • Develop a coherent plan for your first day/class • Write a plan for day two and or the subsequent to it (optional) * * * Physical environment • Regarding a survey you conduct, sketch the arrangement of a classroom you observed/inspected • Develop a floor plan for your classroom that provides a clear line of sight between the teacher's desk and student seats • Identify materials and equipment that will be feasible in the classroom * * * * Final self-evaluation report about your learning on classroom management and the portfolio you prepared. The report should give evidence of the documents you prepared and their relation to the objectives on the left column.

APPENDIX O

ADDITIONAL PORTFOLIO GUIDE

Research on the use of portfolio indicates that it produces many desired instructional practices. Nevertheless, it brings about many burdens to the student and the instructor as well. During the formative evaluation process (interviews and open-ended questionnaires) similar to research on portfolio assessment, it was found that you (our learners) faced some difficulties and burdens while preparing their portfolios, too. The purpose of this paper is to provide you with some tips to alleviate the preparation process.

Your Portfolio is Expected to Contain

1. reflections based on the specific unit and the activities in line with the objectives of the particular session or unit.
2. products of students' learning experiences which are self-selected, and reflect individuality, creativity and autonomy. For instance, evidence of pictures, graphs, activates, research based on interviews and/or observations are some examples that we can name.
3. items that were required in the portfolio preparation guideline sheet (e.g., daily plan on setting rules and routines).
4. a self-evaluation report. The report should include the following:
    - Your learning on classroom management and the portfolio you prepared.
    - How do you see yourself as a prospective classroom manager?
    - To what degree have you achieved the goals and objectives of the course?
    - What are your strengths and weaknesses?

- The report should give evidence of the documents you prepared and their relation to the objectives of the course
- Final score (to be submitted after the standardized evaluation form will be prepared)

5. Standardized evaluation form.

Reflective Papers

Reflections give evidence of knowledge, dispositions, and skills you possess as a prospective teacher candidate. While writing a reflective paper consider the following:

1. Give a brief summary of the unit that reflects your understanding of the goals and objectives of the particular unit. A summary might be prepared as a concept map, or in outline form as well. It is totally up to you. Please, do NOT copy the summary page of the main textbook you use. It should reflect your own way of understanding. Indicate the name and the date of the unit as well.
2. After class discussions take place, reflect in brief how your conception was about the particular topic before reading the topic, after reading the topic, and after class discussions. Think of the following questions: What did I know? What has changed or not? What influenced this change? How can I relate these to my own experiences? How will I use new constructs? Are some questions that may guide you.
3. Also, indicate how the particular activities influenced your knowledge construction. Was the activity effective for your learning? What other suggestions would you have? For instance, after a task you may mention how the discussion with your peers in the group (on … date …) made you think about the importance of teacher attitude as a beginning teacher for the first days, and what strategies you might use, and the reasons behind these. Moreover, based on your field experiences (you had in earlier years or the ones you might be doing at present), you may evaluate yourself regarding the intervention strategies you may use when certain misbehaviors raise. On the contrary, you may evaluate the intervention strategies that were used by the mentor teacher. These are all possible. You could indicate what aspects influenced your learning most.

4. Discuss the metaphor you used in the beginning of the school year. Do you still have the same conception or has it changed.
5. Prepare a final concept map on what classroom management is. Compare it to the first one.

Format of Portfolio (Only a suggestion!)

1. Use a simple folder in which every page can be seen one by one (for practical purposes).
2. Items belonging to a particular unit should be together (e.g., summary of the unit, reflections based on the activity, and an additional self-created item should be placed successively).
3. Number each page and provide a content table (create a dimensional content table: e.g.,

Assignment: Constructing a Standardized Evaluation form

Provide a list which reveals aspects that you want to be evaluated with. Submit one to the instructor and put one in the portfolio. Dimensions to be considered could be: quality of weekly summaries and/or reflections, quality of autonomous products, evidence of learning progress, etc.

APPENDIX P

TURKISH SUMMARY

GİRİŞ

Bu çalışmanın amacı, oluşturmacı öğretim sürecinin öğretment eğitim programlarında Sınıf Yönetimi dersinde öğrenci erişisi, kalıcılık ve tutum üzerindeki etkisini araştırmaktır.

Türkiye'de eğitim üzerine yapılan eleştiriler genellikle eğitimin geleneksel öğretim yöntem ve teknikler kullanılarak yapıldığı ve öğrencilerin eleştirel düşünceden uzak, ezberci bir yaklaşımla yetiştirilmelerine yöneliktir. Öğretim ile ilgili literatür, sosyal oluşturmacı öğrenme kuramının, öğrencilere eleştirel düşünme becerilerini kazandırdığını vurgulamaktadır. Bu bağlamda, bu kuramın öğretmen eğitiminde denenmesi önemlidir.

Oluşturmacılık bir öğretme kuramı değil öğrenme kuramıdır (Brooks & Brooks, 1993). Bu kuram, öğrencinin sınıf içinde ya da dışında öğrenme sürecine etkin katılımını gerektirir. Bu öğrenme sürecinde öğrenci, sorumluluk almanın ve karar verme sürecine katılmanın önemini algılar ve bu bağlamda hareket eder. Birey öğrenirken geçmişten gelen deneyim ve bilgilerini, karşılıklı konuşma ve yansıtma yöntemiyle paylaşarak yeni bilgilerin oluşturulmasını sağlar (Shunk, 1996). Buna dayalı olarak, bilgi edinme bir sonuç değil, yeni bilginin oluşturulması için bir kaynaktır. Dolayısıyla, böyle bir öğrenme sürecinin geleneksel sınıf ortamlarında gerçekleştirilemeyeceği açıktır.

Oluşturmacı Sınıf Ortamı Nasıldır, Nasıl Oluşturulur

Oluşturmacı sınıf ortamının yaratılması, öncelikle öğrenilecek materyalin gerçekçi olması ve öğrenci için anlam taşımasını gerektirir. Oluşturmacı öğrenme kuramı, bireyin eleştirel düşünme, sorgulama, problem-çözme ve girişimciliğini ön plana çıkarır (Brooks & Brooks, 1993; Marlowe & Page, 1998). Öğretim etkinlikleri, aktif öğrenmeyi destekleyen gerçekçi etkinlikler çerçevesinde yürütülür (Wilson, 1996). Bu etkinlikler, bilişsel üst düzey becerilerin kullanılmasını gerektirir ve paylaşımcı, işbirlikli çalışma ortamlarında gerçekleştirilir. Bu tür bir ortamda amaç, var olan bilgilerin yansıtma yöntemiyle paylaşılmasını sağlamak ve yeni bilgilerin oluşturulmasını, yani kavramsal farklılığın oluşturulmasını kolaylaştırmaktır. Etkinlikler çeşitlilikleri ve farklılıkları ile öğrenme ortamını zenginleştirirler. Bu etkinliklere örnek olarak aşağıdakileri sıralayabiliriz:

- Araştırma ya da proje hazırlamak
- Benzetim ya da rol çalışmaları yapmak
- Çoklu öğrenme ortamları yaratmak
- Durum çalışmaları yapmak
- Sözlü durum çalışmaları yapmak
- Sorgulamaya dayalı konuşma/tartışma ortamları yaratmak

Oluşturmacı sınıf ortamlarının yaratılması, sadece etkinliklerin uygulanması ile sınırlı değildir. Öncelikli olarak, oluşturmacı anlayışın başarıyla uygulandığı ortamlar, gerçek demokrasinin yaşandığı yerlerdir. Bu ortamlarda hem öğretmen hem de öğrenci etkin rol alırlar. Öğrenci, zihinsel çaba göstererek, araştırma yaparak, bilinen ya da sunulan gerçekleri sorgulayarak başkalarıyla etkileşimde bulunur ve yeniliğe açık tutumlar geliştirerek bu tür bir öğrenme ortamına katkı sağlar (Deryakulu, 2000). Bir konuya bütünsel olarak bakar ve mutlak doğrularla değil, ortamın ve kültürün gerekliliklerini göz önünde bulundurarak esnek yargılar üretir. Sonuç olarak, öğrenci bilgiyi olduğu gibi alan değil, üreten ya da araştıran bir rol üstlenir. Yani edilgen değil, etkindir. Öğretmen ise, bireyin bilgiye ulaşması için kaynak sağlayan, rehberlik eden, öğrenciyle birlikte öğrenci olan ve araştırandır. Oluşturmacı ortamın sağlanabilmesi öğretmenin yönlendirmesiyle gerçekleştirilebilir. Oluşturmacı bir öğretmen aşağıdaki ilkeleri dikkate alır.

- Öğrencinin özerkliğini ve girişimciliğini teşvik eder.
- Gerçek materyallerin yanı sıra etkileşime dayalı ve gerçeği modelleyen

materyaller de kullanır.

- Öğrencilerin kendi hedeflerini belirlemelerini sağlar.
- Öğretim yöntem ve teknikleri ile içerik konusunda öğrenciye tercih hakkı tanır.
- Öğrencilerini soru sorma ve araştırma yapmaya teşvik eder.
- Mutlak ya da sorgulanamayacak doğrularla değil, deneyim, ortam ve kültürün gereklerine göre tartışarak ve paylaşarak doğrulara ulaşılması gerektiğini vurgular.
- Bireylerin öz benlik ve kişisel haklarına saygıyı kendisi örnek olarak gözetir.
- Öğrencilerin gerçek yaşamla ilgili deneyimleri yaşamaları için problem çözmeyi gerektiren etkinlikler hazırlar ve bunlara eleştirel yaklaşmalarını ister.
- Soru sorduğunda bekleme süresi tanır ve soruların amacı ilişkilerin güçlenmesi yönündedir. Özellikle kavramların/olguların kullanılmasını teşvik eder. Bu şekilde bireylerin kendilerini ifade etmelerini kolaylaştırmış olur (Brooks & Brooks, 1993; Honebein, 1996; Windschitl, 2002).

Oluşturmacı öğrenme etkinliklerinin ilk ve orta öğretim düzeyinde çeşitli derslerde anlamlı ve kalıcı öğrenmeye katkısı bilinmektedir (Korkmaz, 2001; Smerdon & Burkhan, 1999; Yıldırım, Özden, & Aksu, 2000). Öğretmen yetiştirme kurumlarında da oluşturmacı öğretim ortamlarının yaratılması (Holt-Reynolds, 2000; Lunenberg & Korthagen, 2003) ve bunun artan sayıda olması kaçınılmazdır.

Semerci (2003), tez aşamasında olan doktora öğrencilerinin eleştirel düşünceye sahip olup olmadıklarını ve bir dönemde aldıkları "Gelişim ve Öğrenme" ile "Öğretimde Planlama ve Değerlendirme" öğretmenlik meslek derslerinin, bu öğrencilerin eleştirel düşünme becerilerini geliştirip geliştirmediğini incelemiştir. Araştırma sonucunda bu iki öğretmenlik dersinin eleştirel düşünme becerilerini geliştirdiği görülmüştür. Buna göre öğrencilerin araştırmaya yönlendirilmesi, derslerin tartışma ve soru cevap şeklinde işlenmesi, derse katılım ve soru sormada kendilerine güven duymalarının sağlanması, öğrencilerin eleştirel düşünme becerilerini geliştirmektedir. Araştırma sonucunda bu derslerin lisans öğretiminde de eleştirel düşünce becerilerinin geliştirilmesi yönünde ele alınması önerisi gündeme getirilmektedir.

Öğretmen yetiştirme ile ilgili başka bir çalışma Kesal (2003) tarafından gerçekleştirilmiştir. Araştırmacı, yabancı dil öğretmeni yetiştiren bir kurumda oluşturmacı kuramın ne derecede kullanıldığını bulmayı amaçlamıştır. Bulgular,

yabancı dil öğretmenliği ile ilgili bölümlerdeki öğretim elemanlarının ve öğretmen adaylarının yöntem derslerinde oluşturmacı etkinlikler kullandıklarını göstermiştir. Ancak, her iki grup arasında algı farklılıkları görülmüştür. Öğretmen adayları daha çok geleneksel yöntem ve tekniklere eğilim gösterirken , öğretim elemanları oluşturmacı yöntem ve tekniklere eğilim göstermişlerdir.

Yukarıda da görüldüğü üzere, Türkiye'de oluşturmacı yaklaşımı içeren çalışmalar var ise de, öğretmen yetiştirme alanında bu yaklaşımın özellikle denendiği araştırmalar azdır. Bu araştırmanın amacı eğitim fakültelerinin öğretmen yetiştirme programlarında yer alan zorunlu derslerden Sınıf Yönetimi dersinde oluşturmacı öğretim etkinliklerini denemek ve bu etkinliklerin öğretmen adaylarının algılarına göre öğrenme sürecine katkısını saptamaktır. Bu çalışma, aşağıdaki araştırma soruları kapsamında yürütülmüştür.

Araştırma soruları

1. Deney grubu (oluşturmacı öğrenme) ve kontrol grubu (geleneksel öğretim) öğrencileri arasında erişi ve kalıcılık açısından anlamlı bir farklılık var mıdır?

2. Deney grubu (oluşturmacı öğrenme) ve kontrol grubu (geleneksel öğretim) öğrencileri arasında Sınıf Yönetimi dersine karşı tutum ile ilgili anlamlı bir farklılık var mıdır?

3. Oluşturmacı öğrenme süreci başında ve sonunda öğrencilerin sınıf yönetimi ile ilgili kavramları ne derece farklıdır?

4. Öğrencilerin, oluşturmacı öğrenme sürecine ve sınıf yönetimi becerilerini geliştirme ile ilgili algıları nelerdir?

Yöntem

Araştırmada, nicel araştırma yöntemlerinden deneysel desen ile nitel araştırma yöntemlerinden durum çalışması deseni birlikte kullanılmıştır. Deneysel çalışma için ön test ve son test olmak üzere bir çoktan seçmeli test, bir açık uçlu test

ve bir tutum ölçeği kullanılmıştır. Durum araştırması deseni için ise öğrenci algılarını saptamak üzere bir kavramsal algılar formu, açık uçlu anket ve öğrencilerle odak grubu görüşme formu kullanılmıştır. Açık uçlu anket soruları aracılığıyla öğrencilerden derinlemesine veri toplanması amaçlanmıştır. Görüşmeler ise açık uçlu anket yoluyla elde edilen cevapların ayrıntılı olarak incelenmesi amacıyla gerçekleştirilmiştir. Sınıf Yönetimi dersi, araştırmacı ve gönüllü bir öğretim üyesi tarafından gerçekleştirilmiştir. Araştırmacı ve gönüllü öğretim üyesi, hem deney grubuna hem de kontrol grubuna ders vermiştir. Bu yöntem, uygulamada yanlılığı ortadan kaldırmak için kullanılmıştır.

Örneklem

Çalışmanın örneklemi (n = 144) Orta Doğu Teknik Üniversitesi, Yabancı Diller Bölümü, üçüncü sınıf öğretmen adaylarından oluşmaktadır. Deney grubunda (n = 76) oluşturmacı, kontrol grubunda (n = 68) ise geleneksel öğrenme süreci uygulanmıştır. Görüşme örnekleminin oluşturulması için öğrencilerin (öğretmen adayı) portföy çalışmalarının içeriği, başarı (başarılı, orta derecede başarılı ve az başarılı) ve sınıf ortamındaki motivasyon (güdülenmiş, orta derecede güdülenmiş ve az güdülenmiş) dikkate alınmış ve üçer kişiden oluşan iki (n =12) odak grubu görüşmesi yapılmıştır. Görüşmeler hem uygulama sürecinde hem de uygulama sonucunda gerçekleştirilmiştir. Ancak final dönemi olduğundan, son görüşmeler yedi kişiyle gerçekleştirilebilmiştir. Görüşmeler beşi odaklı görüşme ve ikisi bireysel görüşme şeklinde gerçekleştirilmiştir

Uygulama Süreci

Bu çalışmada, Sınıf Yönetimi dersinde oluşturmacı öğretme haftada dört saat olmak üzere toplam 11 haftada gerçekleştirilmiştir. Her hafta için örnek olay çalışması, problem-çözme etkinlikleri ya da benzeri oluşturmacı etkinlikler kullanılmıştır. Etkinlikleri uygulama süreci, özellikle Tenenbaum ve arkadaşlarının (2001) önerilerini ve literatürde yer veriler oluşturmacı öğretim ortamlarının özelliklerini yansıtmaktadır. Sınıf-içi etkinlikler, özellikle işbirlikli grup çalışmaları, araştırma, problem çözme gibi sosyal oluşturmacı etkinlikleri kapsamıştır. Bilginin oluşturulması ve içselleştirilmesi konusunda öğrencilerden yansıtıcı günlük tutmaları

ve portföy hazırlamaları beklenmiştir. Bunların yanı sıra akran eğitimi, akran ve öz değerlendirme gibi etkinliklere de başvurulmuştur.

Verilerin toplanması

Çoktan seçmeli bir est ile açık uçlu sonlardan oluşan bir test uygulamanın ilk haftasında ve 11 haftalık uygulama sonunda hem deney hem de kontrol grubuna uygulanmıştır. Ayrıca başarının kalıcılığını ölçmek üzere aynı test 3 aylık yaz tatili dönemi sonrası öğrencilere verilmiştir. Durum çalışması ile ilgili veriler toplam 7 haftada toplanmıştır. Daha sonra deney gruplarından öğrencilerle üçlü gruplar halinde toplam dört grup görüşmesi gerçekleştirilmiştir. Öğrenci ihtiyaçları ya da önerileri doğrultusunda uygulamada ek etkinlikler yapılmıştır. Bunların yanı sıra, uygulama sonunda da durum belirlenmesine yönelik görüşmeler gerçekleştirilmiş ve öğrenci algılarına göre oluşturmacı öğrenme süreci değerlendirilmiştir.

Verilerin Çözümlenmesi

Anket yoluyla toplanan nitel veriler sayısal analize (frekans), görüşme ve yansıtma ilgili nitel veriler ise içerik analizine tabi tutulmuştur. Birden fazla veri toplama aracının birlikte kullanılması, uzman görüşlerine başvurulması, testte yer alan maddelerin güvenirlik ve analiz çalışmaları ve nitel veri tabanının bir uzmana incelettirilmesi ve analiz sonuçlarının verilerle karşılaştırılması araştırmada geçerlik ve güvenirliğin sağlanmasında atılan önemli adımlardır.

Bulgu ve Sonuçlar

Bu bölümde, Sınıf Yönetimi dersinde oluşturmacı öğretim etkinliklerinin kullanılması ve öğretmen adaylarının sınıf yönetimi becerilerini öğrenmeleri ile ilgili başarı, tutum ve algıları konusunda farklı veri toplama yöntemlerinden elde edilen bulgular tematik olarak sunulmuştur.

Birinci Araştırma Sorusu Bulguları

Birinci araştırma sorusu çerçevesinde, açık uçlu test ile ölçülen öğrenci başarısı geleneksel öğrenme ortamına göre anlamlı bir fark yaratmamıştır. Fakat uygulamadan üç ay sonra gerçekleştirilen başarının kalıcılığı ile ilgili sonuçlar,

oluşturmacı öğrenme süreci ile ilgili ortamlar sonucunda, öğrenci başarısı açısından anlamlı bir fark yaratmıştır. Yazılı test ile ölçülen son test sonuçları da deney grubu açısından anlamlı bulunmuştur.

İkinci Araştırma Sorusu Bulguları

İkinci araştırma sorusu, öğrencilerin Sınıf Yönetimi dersine karşı tutumları ile ilgilidir. Tutum ölçeği ile ilgili son test sonuçları, deney grubu aleyhine anlamlı bir farklılık ortaya koymuştur. Bu sonuçla ilgili öğrenci algıları incelendiğinde, deney grubundaki olumsuz tutumun alternatif değerlendirme yöntemlerinden ve bilgiyi oluşturmak için sürekli işbirlikli çalışmalar yapmaktan kaynaklandığı ortaya çıkmıştır.

Üçüncü Araştırma Sorusu Bulguları

Öğrencilerden, sınıf yönetimi denildiğinde akıllarına hangi kavramların geldiği ve bunların nedenleri uygulama başında ve sonunda sorulmuştur. Baştaki kavramlar genel olarak kontrol etmeyi ve sınıfta düzeni sağlayıcı özellikleri yansıtan kavramları kapsamaktadır. Fakat uygulama sonunda, katılımcıların sınıf yönetimi ile ilgili kavramsal algıları kontrol etme özelliği taşıyan özellikler yerine liderlik, bireysel farklılık ve öğrenmeye özen göstermeyi ön plana çıkarmaktadır. Bu sonuç deney grubundaki öğrencilerin sınıf ortamını da yansıtan unsurları kapsamaktadır.

Dördüncü Araştırma Sorusu Bulguları

Dördüncü araştırma sorusu kapsamındaki bulgular, açık uçlu anket ve öğrencilerle görüşmeler yapılarak elde edilmiştir. Bunlar aşağıda tematik olarak özetlenmiştir.

Oluşturmacı Etkinliklere Dayalı Bulgular

Bu çalışmada, karşılıklı konuşma ve etkileşimin bilgiyi oluşturmada ne denli etkinli olduğu görülmüştür. Özellikle öğrenciler kendilerinin ve akranlarının deneyimlerini teorik bilgileriyle karşılaştırarak yeni bilgiler oluşturmuşlar ve sahip

oldukları bilgi ve deneyimlerine eleştirel olarak bakmışlardır. Oluşturmacı yaklaşım, bilginin oluşturulmasında karşılıklı konuşma ve tartışmayı temel olarak görünmektedir (Brooks & Brooks, 1993; Hedegaard, 1997; Marlowe & Page, 1998; Vygotsky, 2002). Vygotsky (1994) etkileşimin bir üst bilgi düzeyine sahip insanların yanında gerçekleştiğinde bilgiyi oluşturmanın daha etkin olduğunu ve bu etkileşim ve paylaşımlar sayesinde eleştirel düşünme ve üst düzey düşünme becerilerinin pekiştiğini vurgular. Bu paylaşımlar, Vygotsky'nin önerdiği gibi bir derece daha üst bilgiye sahip bir bireyin yönlendirmesi gibi değil, farklı deneyimleri yaşamış bireylerin katılımı sonucunda etkinli bulunmuştur. Bu etkileşim sayesinde, öğrencilerin kendileri de o ortamda yeni bir kültür oluşturmuş ve sürekli yansıtmalar sayesinde yeni bilgileri kavramsal olarak işlemişlerdir. Örneğin, sınıf yönetimi algıları disiplin sağlama amaçlı kullanılan bir süzgeçten, öğrenmenin daha etkin ve zamanın etkili kullanılmasını sağlamak için gerekli yöntem ve tekniklerin uygulanması şeklinde kavramsal bir yapıya dönüşmüştür.

Her ne kadar karşılıklı konuşmaları ve tartışmaları genelde olumlu görülse de, bu tür ortamların yoğun olarak yaşanması öğrencilerde bazı sıkıntılara neden olmuştur. Örneğin bazı öğrenciler, grup çalışmalarında rahat edemediklerini, bazı akranlarının konuya hazırlıksız geldiklerini ve bunun da grup çalışması yapmak için ilgi ve isteklerini azalttığını bildirmişlerdir. Buna ek olarak, bazı öğrenciler grup çalışmalarının, kendi öğrenme beceri ve alışkanlıklarına uymadığını ve kişisel öğrenme becerilerinin ihmal edildiğini bildirmişlerdir. Başka bir deyişle, oluşturmacı öğrenme ortamı yaratılmasına paralel olarak etkin öğrenme ortamları oluşturma konusunda öğrenciler hem fikir olmakla birlikte, özellikle bireysel öğrenme becerilerine sahip öğrenciler bu tür ortamların sürekli olmasını kendi öğrenme süreçleri açısından uygun bulmuşlardır. Bunların yanısıra bireysel ve akran öğrenmesine katkıda bulunma gereğine bazı bireyler duyarlı davranmamışlar ve grup çalışmaları içinde yükü özellikle daha çalışkan öğrencilere bırakmışlardır.

Öğrenci Motivasyonuna Katkısı

Genel olarak, oluşturmacı öğrenme ortamlarının motivasyonu olumlu yönde etkilediği rapor edilmiştir. Öğrenciler, etkili öğrenme ortamlarını gerçek ortamların yansıması gibi görmüşlerdir. Ayrıca sınıf yönetimi konusunda ne tür problemlerin ortaya çıkabileceği üzerinde düşünmüşler ve problem çözme yollarını aramışlardır.

Bunun yanı sıra, kendilerinin etkin bir şekilde öğrenme sürecine katılarak akranlarıyla işbirliği yapmaları, motivasyonarını yükselten bir etken olarak görmüşlerdir. Ancak işbirlikli ya da grup çalışmalarının çok olması motivasyonlarını zaman zaman kırmıştır. Bunun nedenleri arasında sınıfın kalabalık oluşu ve herkesin aynı derecede grup sorumluluğuna sahip olmayışı belirtilmiştir. Her zaman bilgiyi oluşturmaya çalışan olmak yorucu hatta motivasyonu düşürücü unsur olarak ortaya çıkmıştır. Öğrenciler, bazen eğiticinin geleneksel anlamda bilgiyi aktarmasına ihtiyaç duyduklarını dile getirmişlerdir.

Oluşturmacı Ortamlarda Kullanılan Materyaller

Öğrenci algılarına göre, oluşturmacı etkinlikler öğrenme ortamının gerçekçi olmasını sağlamıştır. Öğrenciler ve bu tür etkinliklerin diğer eğitim derslerinde de göz önünde bulundurulmasını önermişlerdir. Ancak kullanılan kaynaklar açısından bakıldığında, her ne kadar gerçek ortamlar ile ilgili örnek olaylar içerse de bunların yabancı ortamları yansıttıkları ve kendi kültürleri ile ilgili örnekler olmadığından bunları gerçekçi olarak kabul edemediklerini rapor etmişlerdir. Bu bağlamda, gerçek sınıf ortamlarına ait videoların kullanılmasının gereğini dile getirmişlerdir. Böyle ortamları (video programlarını seyrederek) grup içerisinde eleştirel bir gözle inceleyip, gördükleri potansiyel sorunlara çözüm getirerek, sınıf yönetimi becerilerini daha verimli bir şekilde geliştirebileceklerine inanmaktadırlar. Bunun yanı sıra, öğrenciler bu ortamlarla ilgili olarak öğretmenlerin ya da konu ile ilgili uzmanların konuk olarak davet edilmesini önermişler ve onlarla bilgi paylaşımlarında bulunmalarının daha etkili olabileceğini belirtmişlerdir.

Alternatif Değerlendirme Yöntemlerinin Kullanılması

Öğrenci algılarına göre, portföy hazırlamak ve yeni edindikleri bilgileri sürekli yazıya yansıtmak, bilginin güçlenmesini ve devamlılığını sağlamaktadır. Ancak bu tür etkinlikler çok zaman aldığından yorucu olmakta ve bıkkınlık yaratmaktadır. Bu bağlamda da öğrenciler bunları kendilerine ek bir yük olarak görmektedirler. Akran değerlendirme ya da kendini değerlendirme gibi etkinlikler, bu kültürel ortamda etkili bir yöntem olarak kabul görmemektedir. Öğrenciler, bu tür etkinliklerin nesnel olmadığını düşünmektedirler. Değerlendirmelerinde arkadaşlarını olası olumsuz değerlendirmelerle kırabileceklerini ve bundan dolayı da değerlendirme yapmaktan çekindiklerini bildirmişlerdir.

Özet olarak bulgular, oluşturmacı öğretmen adaylarının etkin öğrenme ortamlarında daha yüksek motivasyonla öğrendiklerini ortaya çıkarmıştır. Oluşturmacı ortam sayesinde, öğrenciler kendilerini gerçek ve anlamlı öğrenmeyi yansıtan ortamlarda görmüşlerdir. Öğrenciler sınıf yönetimi konusundaki becerileri öğrenirken, kendilerini öğretmen olarak görmüş ve öğrendiklerini yaşama geçirebilmek için okullardaki farklılıkları ve dinamikleri sürekli sorgulamışlardır. Öte yandan, sınıf yönetimi ile ilgili yerli literatürün az olması bir problem olarak ortaya çıkmıştır. Öğretmen adayları, kullanılan ders kaynaklarının ülkemiz ortamına yabancı olduğunu düşündüklerini belirtmiş ve uygulanabilirliğini sürekli sorgulamışlardır. Ayrıca, öğretmen adayları portföy çalışması ile performanslarının değerlendirilmesinin öğrenmelerine önemli katkı sağladığını belirtmelerine rağmen, bunu zaman alıcı ve yorucu bir süreç olarak görmüşlerdir.

Çalışmanın Önemi ve Öneriler

Bu çalışmanın önemi bir kaç yönden ele alınabilir. Birincisi, oluşturmacı etkinliklerin öğretmen adayı yetiştirme süreci üzerindeki katkısını görmektir. İkincisi, Sınıf Yönetimi dersinde oluşturmacı etkinliklerin öğrenme sürecine etkisinin görülmesi ve ortaya çıkan potansiyel güçlüklerin öğretmen eğitimcilerinin uygulamalarına ışık tutar nitelikte olmasıdır. Son olarak, geleneksel öğretim yöntemlerinden oluşturmacı öğretim ortamlarına geçmenin çok kolay olmadığının anlaşılması, motivasyon ve öğrenmeye katkı sağladığı halde bunun hem öğretmen adayları hem de öğretmen eğitimcilerine fazla yük getirdiğinin görülmesidir. Özellikle portföy çalışmaları ve işbirlikli çalışmalar kapsamında bu zorluklar dile getirilmiştir. Bu bağlamda, bir eğitim dersini oluşturmacı bir yaklaşım ile yürütmenin zor olduğu ve böyle bir uygulamanın tam olarak yürütülebilmesi için okul kültürünün köklü bir dönüşüme ihtiyacı olduğu görülmektedir. Çalışmada yer alan öğrencilerin oluşturmacı öğretim etkinlikleri ile eğitim-öğretim sürecinin yürütülmesini büyük bir oranda desteklediklerı görülmüştür. Bununla birlikte, eğitici ve yararlı olduğuna inandıkları halde, öğrenciler alternatif değerlendirme yöntemlerinin (portföy gibi) kullanılmasını istememektedirler. Aksine, geleneksel anlamda beceriyi ölçen sınavları tercih ettiklerini vurgulamaktadırlar. Oluşturmacı kuramın tam olarak uygulanabilmesinin, ortamdaki kültürün ve öğrencinin öğrenmeye bakış açısının değişmesiyle mümkün olabileceği düşünülmektedir. Böyle bir değişimin de kısa

zamanda olamayacağı ve adım adım gerçekleşebileceği bu çalışmada kısmen de olsa ortaya çıkmıştır.

VITA

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