1-2013

The UAE English Pre- Service Teachers Field experience Challenges Coping to teach within a Major Curricular reform

Sahar Ali Mohammed Salem

United Arab Emirates University

College of Education

Curriculum & Instruction Department

Master of Education Program

THE UAE ENGLISH PRE-SERVICE TEACHERS' FIELD EXPERIENCES CHALLENGES: COPING TO TEACH WITHIN A MAJOR CURRICULAR REFORM

By

Sahar Ali Mohammed Salem

A Thesis Submitted to

United Arab Emirates University

In Partial Fulfillment of the Requirements

For the Degree of

Master of Education

Curriculum and Instruction: English Education

January 2013

United Arab Emirates University

College of Education

THESIS TITLE

THE UAE ENGLISH PRE-SERVICE TEACHERS' FIELD EXPERIENCES CHALLENGES: COPING TO TEACH WITHIN A MAJOR CURRICULAR REFORM

AUTHOR

Sahar Ali Mohammed Salem

DATE OF SUCCESSFUL DEFENSE

January 23, 2013

THE THESIS HAS BEEN ACCEPTED BY THE THESIS COMMITTEE IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF EDUCATION

Dr. Nejmeldin O. Alsheikh THESIS COMMITTEE CHAIR	SIGNATURE	Feb. 21, 2013 DATE
Dr. Mohammed S. Shahin THESIS COMMITTEE MEMBER	SIGNATURE	21.2.2013 DATE
Dr. Abdurahman G. AlMeshlab THESIS COMMITTEE MEMBER	SIGNATURE	27.2.2013 DATE

ABSTRACT

The purpose of this study was to investigate the challenges the UAE University (UAEU) English pre-service teachers faced during their field experience within a major curricular reform. The study focused on five UAEU English pre-service teachers enrolled in a practicum course during their field experience and their five cooperative teachers. A semi-structured interview, a questionnaire and an observation checklist were employed to explore the field experience challenges that the UAEU English pre-service teachers encountered. The use of multiple resources helped to create a general profile and in turn helped to improve the trustworthiness of the research findings. The implications derived from this study indicated that the UAEU English pre-service teachers viewed themselves as unprepared to meet the curriculum reform requirements.

The findings revealed that although the UAEU English pre-service teachers were well prepared to teach English Language, the discrepancy between their university coursework and their field experience was apparent. Finally, the study findings revealed that most of the UAEU English pre-service teachers' challenges were centered around knowledge of subject matter of mathematics and science and knowledge of curricular.

Keywords: UAE Pre-service teachers; UAE Curricular Reform; teaching practicum; pre-service teachers' challenges; field experience; university coursework, Abu Dhabi Education Council.

Acknowledgements

I offer my regards and blessings to all of those who supported me in any respect during the completion of the thesis. I am most grateful to my committee Chairperson, Dr. Nejmeldin Alshcikh, who held my work to a high standard of excellence. I have benefited a lot from his professionalism, expertise and excellent supervision. I am also thankful to my dedicated and scholarly committee members Dr. Abdurrahman Al-Mekhlafi and Dr. Mohammed Shaban for their insights and contributions to my study; my deep appreciation for their support and invaluable assistance, friendship and willingness to serve on my committee.

Dedication

My work would have not been completed without the support and encouragement of my husband Ahmed. His intellectual and emotional contributions enabled me to finalize this thesis. I am also eternally indebted to my parents, who instilled in me not only the love for learning but also the intensive of searching for deep knowledge. Most importantly, I am thankful to my family who cheered me on all along the way, to my son Mohammed and my daughters Dalia & Dina whom without their support and most of all love, the completion of this work would not have been possible. This thesis is also dedicated to my brother and his family who stood by me all along the way for the completion of this thesis. Finally, this dedication would not be complete without my colleagues the Subject Support Specialists Latifa Al Essaie and Maha Nadhif who provided assistance to finish this work. I truly thank you all for your unwavering faith in me. I appreciate all what you have done to encourage and support my professional pursuits.

TABLE OF CONTENTS

CHAPTER ONE

CHAPTER TWO

CHAPTER THREE

CHAPTER FOUR

CHAPTER FIVE

CHAPTER ONE

Introduction

Introduction

In order to provide useful information essential in developing goals and objectives that have the potential to improve teaching, some researchers like Koehler (1985) and Hult & Edens (2001) emphasized the importance of research that assists in conceptualizing the relationship between teacher education programs and teaching practice.

The quality of pre-service teachers' teaching and the ability to overcome challenges during field experience are affected by two important factors; what is offered to them in terms of university preparation and training and what is required from them during their practicum in natural classroom settings. Some researchers indicated that traditional teacher education programs fail in preparing pre-service teachers for the intricacies and realities of the classroom (Goodlad 1990; Korthagen & Kessels1999; Korthagen & Vasalos, 2005) by providing little or no practical preparation for teaching (Hargreaves & Dawe, 1990; Hallinan & Khmelkov, 2001). To fill in the gap between teaching education programs and teaching practices, Howey (1983) finds that decisions about pre-service teachers' teaching are rarely stemmed from research findings. Therefore he stresses the importance of research that describes what is occurring during pre-service teacher field experience to better assess the impact of what is really occurring in the field experience of pre-service teachers.

This study is a response to such recommendations. It investigated the challenges that United Arab Emirates University (UAEU) English pre-service teachers face during their field experience during which a major curricular reform mandated by Abu- Dhabi Education Council (ADEC) is taking place. Whether the United Arab Emirates University (UAEU)

English pre-service teachers were prepared to perform teaching effectively to face the challenges and meet the expectations of the Abu-Dhabi Education Council (ADEC) curricular reform was an area that warranted an investigation. It is a kind of investigation that is crucial to the reform and the teacher education programs (Cheng et al. 2004).

ADEC Curricular Reform

One of the many reforms that have affected English pre-service teachers' field experience in the United Arab Emirates is the Abu Dhabi Education Council (ADEC) curricular reform. A multiple subject-specific knowledge has come to be accepted as one of the keys for improving education in elementary schools. In elementary education, integrated, outcome based curricular and child- centred approaches are regarded by reformists as central to better effective teaching and learning. In addition, the Abu-Dhabi Education Council (ADEC) adopted English Language as a medium of instruction instead of Arabic for both mathematics and science in elementary schools for first grade through fifth grade (ADEC English Policy Manual, 2010). This movement towards the implementation of integrated approach and to the use of English as a medium of instruction in science and mathematics have changed the dynamics of teaching and learning of mathematics and science at the elementary school classroom. Thus, introducing the three subjects of English, mathematics and science to students as collections of facts, and procedures that should be accepted and remembered with no or little connection among them is not anymore accepted. ADEC curricular reform in elementary schools is based on the concept that instruction should be integrated for ease of understanding. Accordingly, the school curricula should not be a kind of segregated approach to instructional topics but should be integrated to adequately address the topics of different disciplines into a coherent body of knowledge. What Students study in mathematics can be integrated in science. For example, students can use the mathematical knowledge they

acquired of how to describe positions, the use of three-dimensional objects and two-dimensional shapes to describe characteristics of the way built environments, products and services are made in science. In addition, ADEC curriculum reform is built upon strands, standards, outcomes and performance indicators and teachers need to understand their progression and development from one grade to the next.

The standard-based outcome curriculum describes what all students are expected to achieve at various stages of development. Thus, teachers are given more autonomy than before since it is expected that during the implementation stage some modifications may be needed because the standards cannot possibly meet the needs of diverse students in different schools and in different environments. Within this reform context, it is necessary that teachers should have enough knowledge of the subject matter and deep understanding of the curriculum and the methods by which knowledge is generated and integrated in the three subjects (English, mathematics and science).

Yet, ADEC current education policy is inconsistent with the university teacher preparation program, where the UAEU English pre-service teachers are trained to teach one area of specialization in elementary schools. This quick shift from teaching of a single subject to a multi-subject approach of teaching affected the United Arab Emirates University English pre-service teachers' ways of teaching that differed radically from what they experienced during their university preparation.

The United Arab Emirates Teacher Education Program

In the United Arab Emirates University (UAEU), the conceptual framework of the College of Education stems from the international standards of the leading teacher education professional organizations and from the college members' experience in the UAE setting.

The organizing theme selected by the college of Education was "Teacher as Professional Practitioner".

The elements of the conceptual framework are: reflection, knowledge, inquiry, critical thinking, collaborative learning, community, diversity and individual differences, communication, technology, ethics, meaningful field experience and performance based assessment (UAEU Student Teaching Manual, 2011). To assess and evaluate pre-service teachers' performance, the college of Education in the United Arab Emirates University (UAEU) adopted a framework for teaching developed by Education Testing Service (ETS) in the USA which was developed by Danielson (1996). The framework identifies those aspects of a teacher's responsibilities and defines what a teacher should know and be able to do in the teaching profession. It is designed to suit the needs of teachers who teach one area of specialization. In their final semester at the university, the UAEU English pre-service teachers are placed in elementary schools for full time teaching semester. The practicum is an integral part of the United Arab Emirates University (UAEU) teacher education program preparation. It is designed to expose pre-service teachers to classroom experiences and to provide them with opportunities to apply theories they studied in their coursework in real classroom practices. During their practicum, the UAEU English pre-service teachers are expected to be familiar with the school English language curricula, classes, texts and routines. They are expected to teach 2 to 3 very well English Language planned lessons every day (minimum teaching of 10 lessons per week). In addition, they are expected to demonstrate full responsibility for their planning, teaching and assessment of English (UAEU Student Teaching Manual, 2011). By the end of the English pre-service teachers teaching practice course, it is expected that four domains should be achieved. These domains are planning and preparation, the classroom environment, instruction and professional responsibilities.

Statement of the Problem

The pre-service teaching practicum is the culminating event in pre-service education (Anderson, 2007). Little is known, however, about the challenges that influence teaching practices as pre-service teachers cope to teach within a major curriculum reform.

The UAEU English pre-service teachers who participated in this study were prepared and trained by the university to teach a single subject. Contrary to the UAEU English pre-service teachers' university preparation of teaching one area of specialization, the UAEU English pre-service teachers were required, according to the ADEC new curricular reform, to teach extra two subjects (mathematics and science) during their field experience. They should have varying degrees of subject matter knowledge and curriculum knowledge related to the subjects and the grade level they taught. However, lacking such deep understanding of fundamental aspects of the multiple subject knowledge of mathematics and science demanded in the current curricular reform affected, to some extent, the UAEU English pre-service teachers teaching.

This was indeed a formidable challenge, seen in the light of concerns voiced about the UAEU English pre-service teachers' proficiency and competency of subject matter. The burden on the UAEU English pre-service teachers was great as they had to teach English in the context of subject matter to young children and to teach science and mathematics content in an integrated approach. In other words, the UAEU English pre-service teachers had to handle the double demand of conveying mathematics and science content as well as English as a language; In this regard, they had to ensure that while they had to teach English, mathematics and science, they should improve students' comprehension of these subjects. Pre-service teachers have to face the challenges of encouraging interactions on multiple subject knowledge, and should be aware of the language used in the classroom (McDonough, 2009).

This study tried to understand the challenges faced by the UAEU English pre-service teachers and how they coped to teach within a major curricular reform. It highlighted the most important elements in the teaching practicum program that need to be modified in order to meet the curricular reform requirements and the UAEU English pre-service teachers' needs.

The Purpose of the Study

The purpose of this study was to capture a complex set of features that are related to the challenges faced by the UAEU English pre-service teachers as they were coping to teach within a major curricular reform during their teaching practicum. The study aims at broadening the scope of the literature on pre-service teachers' field experience as it relates to a major curricular reform.

Research Questions

This study aims at investigating the challenges faced by the UAEU English pre-service teachers as they coped to teach within a major curricular reform. The research questions of this study reflect this purpose. The study tried to find answers for the following questions:

1. What challenges/ problems related to the requirements of ADEC curricular reform do UAEU English pre-service teachers face during their field experience?
2. To what extent are the UAEU English pre-service teachers able to overcome these challenges?
3. Are UAEU English pre-service teachers prepared to teach within the ADEC curricular reform context?
4. What major issues pertinent to the challenges do the UAEU English pre-service teachers face during their field experience within ADEC curricular reform?

Significance of the Study

Most of the studies on pre-service teachers' field experience focused mainly on the quality standards, partnership with schools, pre-service teachers' classroom teaching practices (e.g. classroom management), mentoring and supervision (e.g. Ribich 1995; Ishler, 1996; McIntyre 1996; Simpson, 2002; Draper, O'Brien, & Christie, 2004;; Buck et al. 1992). The majority of studies conducted in the UAE about pre-service teachers focused on pre-service teachers' uses of ICT e.g. use of computer (Almekhlafi, 2004), the use of interactive whiteboard (Ishtaiwa & Shana, 2011), videoconferencing utility for observing technology integration (Almekhlafi, 2006), pre-service elementary teachers' self-efficacy beliefs toward technology integration into the classroom in the UAE(Al-Awidi & Alghazo, 2012), and the perceptions and validation of electronic portfolios' use (Almekhlafi, Al-Mekhlafy & Forawi, 2011). To the best of the researcher knowledge there is no single published study that has been done in the UAE that attempts to track the field experience challenges by investigating the existing gap between the field experience reality and what should be done during pre-service teachers' field experience within the context of curricular reform.

Thus, this study is significant because it is the first study that deals with the challenges that English pre-service teachers encounter during their field experience and how they coped to teach within the context of curricular reform. The study is an attempt to fill a gap in the existent literature regarding the relationship between teaching practicum and teacher education programs in the UAE. It aims at contributing to the current research by providing those who are interested in the improvement of teacher education programs in the UAE, with data from the educational field.

Limitations

The following were identified as limitations of the study. First, the study used a group of UAEU English pre-service teachers, and their cooperative teachers. Therefore, the sample was not representative of the entire population and interpretations of results should not extend beyond the sample. Another limitation of this study, is that the study was conducted in the United Arab Emirates University, within a specific teacher education program, with a small sample of female pre-service teachers(Only 5 female pre-service teachers who were enrolled in the fall of the academic year 2011/2012 to practice teaching in Al-Ain public schools, agreed to participate in the study) during a major curriculum reform so the findings from the study are limited to this group of pre-service teachers in this transition period and cannot be generalised to other pre-service teachers in other universities.

Definitions of Key Terms

Abu Dhabi Education Council (ADEC): Abu Dhabi Education Council (ADEC) was founded by the UAE President in 2005. ADEC is responsible for managing, guiding, adopting and implementing various educational development strategies and initiatives in the Emirate of Abu Dhabi. It is also the licensing authority for individuals, institutions and bodies to engage in any kind of activity in the field of education and higher education in the Emirate of Abu Dhabi. For the purpose of the present study the acronym "ADEC" will be used hence forth.

Pre-service teachers: In this study, a pre-service teacher is a university student who has declared an education major and is involved in the teacher education program. Field experience is meant to provide students with teaching and learning experiences. All students have to spend a whole course in a public school classroom setting during their last university semester which is a prerequisite for their graduation.

Practicum: Gordon, McBride & Hage (2001) indicated that the term "practicum", is used to describe either a full-time or part-time work experience during which the pre-service teacher is assigned definite tasks and responsibilities. For the purpose of this study the two terms practicum and field experience will be used interchangeably to describe pre-service teachers' full time work experience.

Curriculum: Pratt (1980) defined curriculum as the "Written documents that systematically describe goals, objectives, content, learning activities, evaluation procedures and so forth".

Curriculum knowledge. For Shulman curriculum knowledge is the knowledge of programs designed for the teaching of particular subjects and topics at a given level. Shulman's (1986) description of curricular knowledge also consists of knowledge of different programs and corresponding materials available for teaching the given content and of how topics are developed across a given program. The purpose of dealing with curricular knowledge in this study was to explore what curricular knowledge might be in the context of English, mathematics and science education where the pre-service teacher is only an English teacher educator. For the purpose of the present study, Shulman (1986) explanation of curriculum knowledge is adopted.

Integrated Curriculum: Shoemaker & Betty (1989) defined an integrated curriculum as the organization of education in a way that cuts across subject matter lines, making the curriculum more meaningful by bringing together different aspects of the curriculum into meaningful association. It views teaching and learning in a holistic way and reflects the real world which is interactive. Changing to an integrated curriculum requires systemic reform. This includes the way teachers are prepared, certified, and assessed.

Knowledge of Subject Matter: knowledge of subject matter is the basis of a discipline that includes factual information, organizing principles, and central concepts (Shulman, 1986). For the purpose of this research, Shulman's definition of subject matter was Shulman (1986). knowledge of subject matter involves knowledge of concepts and facts as well as knowledge of syntactic structure including legitimacy principles for rules of a particular subject domain.

CHAPTER II

Literature Review

The need of in-depth research on the UAEU English Pre-service Teacher preparation, and the challenges they faced during their field experience within the ADEC major changes in curricula created challenges for a review. s to offer an overview of some of pertinent research that illustrates pre-service teachers' field experience, the challenges pre-service teachers face during their teaching practicum and the complexities of investigating pre-service teachers' challenges in relation to curricular reform movements especially those challenges w s curriculum knowledge and the discrepancy between pre-service teachers' academic study and field experience. The chapter ends with some of the important studies on pre-service teachers that have been conducted within the UAE context.

Pre-service Teachers

A pre-service teacher is a university student who has declared an education major and is involved in the teacher education program. The pre-service teachers' preparation programs often consist of two contexts; university coursework and pre-service teachers' teaching practicum. Today, most of the teacher education programs incorporate both considerable opportunities for teaching practices and a priori pedagogy that are tied to real world experiences in order to support the cognitive development of pre-service teachers. (Dinsmore, Chapman & McCollum, 2000). Although, many researchers describe this structure of teacher education programs as supportive and logically planned, many researchers believe that pre-service teachers are not always well prepared to face the reality of teaching. For example, Batten, Griffin & Ainley (1991) study about the effectiveness of teacher education programs revealed that fewer than half of new teachers were positive about the quality of pre-service

preparation and that only 38% of pre-service teachers thought that they were not adequately prepared for teaching. Therefore, a great amount of researches have been conducted in regards to the problems in teacher education (Vick, 2006).

The uncertainties that remain about the impact of different factors on teacher education programs are justified by the considerable disagreement in the research literature over the kind of theory and knowledge that is most appropriate to pre-service teachers and; from researches about pre-service teachers' practical preparation. For example, teaching education programs that focus on traditional theory based applications more than practices have been criticized by many educators (Beck , Kosnic & Rows

Hammond& LePage 2005; Schulz, 2005; Korthagen & kessels, 1999). According to Levine (cited in Hartocollis, 2005, p. 2) a w ' s face is preparing teachers who know theory and know nothing about practice." Teacher education programs that focus on theories rather than practice have been accused of graduating pre-service teachers that fall into two main categories; the category of failing and the category of teachers who escape the teaching profession in the early years of their career (Haberman, 2005). In addition, many researchers indicate that some of the theories pre-service teachers study at the university during their coursework sometimes contradicts with each other and the inconsistent theories serve only to confuse. Hammerness (2006). The basic issue then is that the teacher preparation programs devote too much attention to theory but not enough to the practical skills of teaching. Considering this dilemma, there has been an increasing emphasis today on the use of research evidence and findings to assess the effectiveness of teacher preparation and what pre-service teachers learn in both their coursework and field experience. Furthermore, literature investigating teacher education programs has directed attention to pre-service teachers' knowledge, its acquisition and more

importantly its implementation (Calderhead, 1990, Richardson, 1990). Thus many researchers like Goodlad (1990) listed some recommendations that programs for education should address. Among the list of recommendations given by Goodlad , is giving extensive opportunities for pre-service teachers to move beyond being students of organized knowledge to become teachers who inquire into both knowledge and its teaching. He then suggested that pre-service teachers should be involved in the issues and dilemmas that emerge out in the field. Pre-service teachers should be involved in the problems and dilemmas arising out of the expected conflicts and inconsistency between what is supposed to work in practice and the research and theory they studied in their coursework. Thus, studies conducted on teachers' knowledge should shift from concentrating on the skills and behaviours pre-service teachers have and theories they know to the personal practical knowledge they possess of classroom scenarios and the challenges they encounter when carrying out purposeful actions in these settings (Carter, 1990).

Field Experience (Teaching Practicum)

Practicum is considered a major component of teacher education programs. Teaching practicum plays a vital role in preparing pre-service teachers for the real world of the classroom (Johnston & Irujo, 2001). Many researchers like Loughran & Northfield (1998) recognized that the complexity of teaching, classroom dynamics and school contexts, could be understood in real classroom context rather than in artificial ones. For many researchers, pre-service teachers can benefit from situated learning in authentic social framework through increasing knowledge, relating knowledge to new situations, increasing competence, self-knowledge, value life-long learning and improving life skill (Cochran-Smith, 2008; Hoffman, 2004; LeCornu, 2005; Risko et al. 2008).

Traditional views of the practicum are of an apprentice-model, where the pre-service teacher is immersed into the teaching situation, observing, absorbing, and eventually imitating the supervising teacher. In theory, pre-service teachers are able to observe the useful and efficient pedagogic practices of their supervising teachers in their classrooms, and gain useful experience in planning and managing student learning activities in a hands-on way. Furthermore, it is expected that pre-service teachers are able to reflect on their pedagogic practices in collaboration with their supervising teachers in ways that will inform their future teaching practices. However, current views favour supervising teachers in the role of supportive mentors rather than of top-down supervisors, and it is assumed that teacher-mentors will support, model and sustain effective classroom practices. Within this context, pre-service teachers are given more opportunities to observe other teachers, apply theory from their coursework, examine problems that arise in classroom situations, and become analytical and reflective professionals. This kind of authentic practicum is the most valuable part of the teaching education program that helps in shaping their teaching experience (Gurvitch & Metzler, 2009), as well as the development of their self-confidence (Lankard, 1995). Hence, authentic practicum that gives pre-service teachers the chance to practice teaching in real classroom settings is a powerful opportunity to enhance their process of learning to teach.

General Issues with Field Experience:

The issue of constituting quality teaching practicum has been a matter of concern in many studies, including researches, books, articles and reports. Many recommendations and suggestions about university practicum program components and the vital role of each have been offered. Some researchers gave more attention to the importance of training pre-service teachers to "think" and "act" like teachers, and to recognize and interact with the complex nature of the classroom. Those researchers, such as MCbee (2004) suggest that what pre-

service teachers need to develop is the practical knowledge and skills, knowledge that is embedded in practice where the emphasis is on learning from teaching not learning how to teach. To McBee (2004) this kind of knowledge may include knowledge of the classroom situation, craft knowledge and personal practical knowledge.

On the other hand, researchers such as Ayers (2004) recommended the integration of theoretical knowledge and professional practice across the three main aspects of a teacher education program; content, pedagogy and professional knowledge as well as providing a variety of experiences in a range of school contexts. The idea of integrating both theoretical knowledge and professional experience was supported by many other researchers such as Cochran-Smith (2005), Darling- Hammond (2005), and Thiessen (2000) who believe that the main issue of constituting effective teaching practicum is teacher's ability to translate the sets of knowledge they acquired during their university coursework into teaching activities. Hence, emphasized the fact that field experiences should be related to and embedded within methods courses, and that it should be carefully constructed and coordinated with university coursework.

Giving equal importance of both the method courses and field experience, Grossman et al. (2008) believe that without the significant interaction between field experience and university coursework, pre-service teachers may perceive that what they are learning through their field experience does not correlate with what they have studied during their coursework at the university. This idea was supported by many researchers such as Thiessen (2000) who indicated that teaching mainly depends on pre- service teachers' ability to concurrently use procedural and practical knowledge they acquire through their coursework and field experience in purposeful context.

Field Experience Challenges

Although the intended outcomes and purposes of the practicum components in pre-service teachers' preparation and education are quite obvious, several problems usually appear in the implementation stage. Therefore, researchers have directed their attention to two important issues: the challenges pre-service teachers encounter while carrying out their teaching duties in classroom settings and; to the personal practical knowledge pre- service teachers have about the classroom situations (Yost, Sentner, & Bailey, 2000). Furthermore, What really goes on in the classroom and how pre-service teachers perform in different situations has been the main focus of the current classroom knowledge research (Bartels, 2005; Dikdere, 2007).

School Setting and Classroom Teaching Practice Challenges:

Researchers like Schempp & Graber (1992) believe that part of the pre-service teachers' field experience challenges is mainly attributed to the high expectations set on pre-service teachers by their education programs. Pre-service teachers education programs often expect a pre-service teacher to perform like a 30- year- experience teacher disregarding the fact that a pre-service teacher enters a pre-existing field that has its established customs, system, rules, patterns and challenges. Yet, most of the pre-service teachers' literature details some conflicts and challenges encountered by pre-service teachers during their field experience that are related to school setting and classroom teaching practices. Among these challenges are 1) the lack of connection between university and the school placement; 2) pre-service teachers' isolation or their failure to socialize with others; and 3) challenges encountered by pre-service teachers in the classroom .

The lack of connection between the university and the school placement was an area of concern of many researchers like Darling Hammond (2005) and Buck, et al. (1992). The lack of connection between the university and the school placement includes the choice of

cooperative teachers, the selection of classroom settings, the length of the practicum, the kind of supervision, and the duration of the practicum.

Another important challenge pre- service teachers may encounter during their practicum is "isolation" or the failure to socialize with others. As reported by Montgomery (2000) some pre-service teachers often fail to socialize with others during their teaching practicum. Socializing with others includes interactions with administrators, parents and most importantly the cooperative teachers. Montgomery (2000) believes that the kind of isolation a pre-service teacher may encounter during the practicum and the failure to socialize with others has great negative impacts on pre-service teachers' attitudes, beliefs and actions, and consequently change their conceptions about teaching and learning.

Nevertheless, the growing number of researchers are moving away from focusing on challenges encountered by pre-service teachers due to inappropriate placement or isolation factors to focus on what is really happening during the pre-service teachers' daily classroom teaching practice. A plethora of previous study findings indicated that pre-service teachers' classroom experience challenges mainly include classroom management, dealing with unmotivated learners, managing time, inappropriate lesson planning, or doing well when the university supervisor is present (Draper, O'Brien, & Christie, 2004; Buck et al. 1992).

One of the most important studies in the literature of pre-service teachers' classroom challenges was the study conducted by Veenman (1984). Veenman (1984) reviewed 83 different studies from different geographical locations. Veenman (1984) found that insufficient material, heavy teaching load, dealing with individual differences, classroom discipline and motivating students are among the most common problems pre-service teachers encounter during their field experience. Veenman (1984) findings are in consensus with many other research findings which indicate that most of the pre-service teachers' classroom challenges are usually related to classroom discipline problems and classroom

management (Draper, O'Brien, & Christie, 2004; Lee, 2004; Orungbemi ,2009). The results of Orungbemi (2009) study about the use of teaching skills among primary school social studies teachers, for example, indicated that there is a correlation between pre-service teachers' teaching skills and keeping discipline in the classroom. Orungbemi (2009) pointed out that effective teaching can help minimize the noise level in the classroom and make students more interested and attentive. Another qualitative research conducted by Lee (2004) about English pre-service teachers' perceptions of their practicum and the challenges they faced during their field experience showed the same results. The results of Lee's study revealed pre-service teachers' satisfaction as they reflected on their success in developing rapport with students and their ability in engaging their pupils in meaningful learning yet, the pre-service teachers in Lee's study complained about difficulties in classroom management and challenges they faced that are related to recognizing individual differences and dealing with various levels of pupils. Lee's study is considered noteworthy since it investigated aspects of pre-service' practicum, including what they succeeded in and the challenges they faced during their field experience.

The Discrepancy between Coursework and Field Experience

The research literature suggests that the practicum is the best hands on method for pre-service teachers to acquire real experience and to learn about the teacher's roles (Caires & Almeida, 2005). However, the discrepancy between theory based knowledge and teaching practices in natural classroom settings has raised a major concern for many educators (Bransford, Darling-Hammond & LePage, 2005; Berger& Luckman, 1991; Wallace, 1991, Lyon, Vaassen & Toomey, 1989). Lyon, Vaassen & Toomey (1989) for example, reported that pre-service teachers find that the teaching program coursework has little impact on their teaching and that pre-service teachers tend to find discrepancies between theory and practice, therefore they believe that their coursework is too theoretical and can't be applied in natural classroom

settings. Additionally, Wideen et al. (1998) studied the process of learning to teach by reviewing previous studies from 1990 to 1996 to come up with the conclusion that pre-service teachers usually encounter the challenges of bridging the gap between the school culture and the university. Moreover, filed experience and beliefs about teaching and learning usually conflicts with theoretical knowledge the pre-service teachers acquire through their teaching program coursework.

The reasons behind the discrepancy between university academic course works and field experience were investigated by many researchers . For example, researchers like Zeichner & Tabachnick (1981) investigated the effects of school experience on the education received by pre-service teachers during their coursework . They reported that much of what pre-service teachers learned at the university courses is "washed out" when pre- service teachers enter their own classroom. In the study of Desjean-Perrotta, Moseley & Cantu, (2008) about the effect of practical experience on what pre-service teachers studied during their coursework, the researchers indicated that when faced with a teaching situation in which a pre-service teacher theoretical knowledge and field practices conflict, the pre-service teacher is likely to revert to his/her practices rather than the knowledge to guide his/her performance.

Furthermore, Some researchers like Borg (2001) and Virta (2002), attributed the gap between university coursework and field experience to pre-service teachers' beliefs which are affected by two important factors; their knowledge and interest in the subject they teach. These beliefs make it difficult to pre-service teachers to transfer what they had studied in their coursework during their teaching preparation program into their classroom practices and hence can't bridge the gap between theory and practice (Ross, 1987).

More to the point are the findings of some previous studies that revealed two important dimensions of consideration that are attributable to the discrepancy between coursework and

field experience. These two dimensions are: a) The focus by teacher education programs on technical proficiency of pre-service teachers which often results in pre-service teachers who are viewed as passive agents in the teaching environment (Goodman, 1986; Shulman, 1986; Zeichner & Tabachnick, 1981), and; b) The pre-service teachers' wrong assumptions about the application of theories they studied during their academic study in the classroom (Gordon, 2001). Many pre-service teachers assume that educational theories are established facts that have direct applicability to the classroom. To Gordon, This assumption which assumes a causal relationship between educational theory and the practice of teaching is false and helps increase the gap between university course work and field experience. Theories cannot be taken entirely without any modifications and put into practice in a particular classroom. One given practice may reflect different theories about how people learn. Theories must be applied in more nuanced and contextual ways, taking into account the social context in which it was created as well as various particulars of each classroom situation .

Implications for bridging the gap between university course work and field experience are discussed by many researchers. Recent studies have examined this theory-practice gap and suggested some enhancing factors of the teacher education programme which help to close the gap between the theory and practice of teaching (Clift & Brady, 2005; Schulz, 2005; Davis, Petish & Smithey, 2006 ; Hedrick, 1999 and Allen, 1988) . Clift & Brady (2005) for example, noted several contributions to research about pre-service teachers preparation and field experience; among these contributions is that desirable practice is more likely to occur when there is coherence between the methods course and field work or between theory and practice. Furthermore, Researchers like Schulz (2005) believe that innovative teacher preparation programs such as the inquiry-oriented program are required to bridge the gap between theories studied at the university and field practice. Others believe that the gap

between theory and practice can be significantly narrowed when some techniques are applied. For example, in a study conducted by Davis, Petish & Smithey (2006), the results revealed that fieldwork within a methods course helps pre-service teacher understand the content and increase their teaching efficacy. Likewise, researchers like Hedrick (1999) found that pre-service gained great benefits and noticed an increase in the pre-service teachers teaching efficacy when they were involved with one-on-one tutoring sessions during their field experience, while concurrently enrolled in a subject-specific methods course that matches the content they were teaching. More to the point, Allen (1988) found that the preparation in pedagogy can contribute significantly to effective teaching, particularly subject specific courses and courses designed to develop skills such as classroom management, assessment, curriculum and instruction.

Curricular Reform

Curricular reform is a complex process and while there are many resources and support factors that appear to influence curricular reform, it is apparent that any successful curricular reform will need to take into account teachers' preparation. For example, in the context of a curriculum reform, Clark (1988) identified 12 factors that affect the change process. Among these twelve factors are the reform movement in general; the innovative curriculum materials; the in-service program; the external support personnel; the day-to-day conditions under which teachers work; and teacher subject knowledge. Other researchers like Memon (1997) identified a more comprehensive list of factors affecting curriculum reform that are grouped as curricular, instructional, and organisational factors . Yet, many researchers place more emphasis on the purpose behind curricular innovation. To these researchers curricular reform and curricular development should be implemented not only to communicate what students should learn but also to guide instruction (Ball & Cohen, 1999;

Senk & Thompson, 2003). Therefore, many of the reforms of curriculum have been based on fundamental shift in thinking about the curriculum intended purposes. This shift in thinking about the purpose of curriculum innovations has been accompanied by the progressive ideas and practices of the maintained education system. The standards- based curriculum for example, which has been adopted by many reform movements has been ongoing in secondary education since the 1990s (Riordan & Noyce, 2001; Ridgway et al. 2003); while in primary education, integrated, enquiry-based curricula, and child-centred approaches have received much appreciation from government advisers and educators. A common argument has been that such approaches led to good managed classrooms and better student achievement, yet demands high quality teaching. Therefore, inadequate pre-service teacher education can impede the right implementation of curricular reforms (Choi, 2000; Hiramatsu, 2005). Accordingly, researches about the effect of curricular reform on pre- service teachers' performance during their field experience, are important to find out how pre-service teachers interpret and implement the major concepts mandated by the reformists. Ridgway et al. (2003) for example, indicated that there is a need to document the nature of instruction occurring in the classrooms where curricula reforms are being implemented by pre-service teachers.

***The Integrated Approach to Curriculum Reform*:**

Some education programs can be described as "different" from the traditional approach to curriculum in that it delivers a program that can be described as "integrated". Examples of integrated curricula elapse with a number of names in the literature, for example, contextualized instruction (Rivet & Krajcik, 2008); community connections (Bouillion & Gomez, 2001); Science technology and society (Pedretti, 2005) and, youth-cantered perspective (Buxton, 2006). The Integrated curriculum approaches to learning involve

students looking towards multiple dimensions across disciplines. In integrated approaches to curriculum students are guided and supported by the teacher, but the focus is on the student being an active learner. Having the opportunity to use knowledge and skills from several disciplines offer increased opportunities for making the curriculum relevant. Jacobs (1989) summarized the main reasons behind the move towards an integrated curriculum as the existed fragmented teaching schedules, concerns about curriculum relevancy and a lack of connections and relationships among disciplines. Thus, the movement towards integrated curriculum is considered a move to more comprehensible concepts and connections among them.

However, the integrated approaches to curriculum are a debatable issue with commentators either supporting or opposing its implementation in schools (Hatch, 1998). Opponents of the integrated curriculum tend to raise epistemological arguments that focus on the structure of knowledge. They argue that disciplines provide students with specialized knowledge needed when trying to solve problems related to particular disciplines or when they need to build thorough explanations of focused aspects of the world. Opponents of the integrated curriculum emphasize the affective front of the debate when defending the integrated curriculum. They believe that disciplines are considered important human achievements that have provided the best answers to basic and deep questions about the human world.

In the contrary, supporters of the integrated curriculum believe that knowledge in the real world is holistic and that there is no need to make such divisions of knowledge into subjects for teaching in schools (Hatch, 1998). Researchers who advocate curriculum integration are with the idea that one of the best ways to promote problem solving is through an enriched environment that connect concepts across disciplines (Wolf& Brandt, 1998; Austin, Hirstein & Walen, 1997; Kain, 1993). They believe that the integrated curriculum is a learner- centred

students looking towards multiple dimensions across disciplines. In integrated approaches to curriculum students are guided and supported by the teacher, but the focus is on the student being an active learner. Having the opportunity to use knowledge and skills from several disciplines offer increased opportunities for making the curriculum relevant. Jacobs (1989) summarized the main reasons behind the move towards an integrated curriculum as the existed fragmented teaching schedules, concerns about curriculum relevancy and a lack of connections and relationships among disciplines. Thus, the movement towards integrated curriculum is considered a move to more comprehensible concepts and connections among them.

However, the integrated approaches to curriculum are a debatable issue with commentators either supporting or opposing its implementation in schools (Hatch, 1998). Opponents of the integrated curriculum tend to raise epistemological arguments that focus on the structure of knowledge. They argue that disciplines provide students with specialized knowledge needed when trying to solve problems related to particular disciplines or when they need to build thorough explanations of focused aspects of the world. Opponents of the integrated curriculum emphasize the affective front of the debate when defending the integrated curriculum. They believe that disciplines are considered important human achievements that have provided the best answers to basic and deep questions about the human world.

In the contrary, supporters of the integrated curriculum believe that knowledge in the real world is holistic and that there is no need to make such divisions of knowledge into subjects for teaching in schools (Hatch, 1998). Researchers who advocate curriculum integration are with the idea that one of the best ways to promote problem solving is through an enriched environment that connect concepts across disciplines (Wolf& Brandt, 1998; Austin, Hirstein & Walen, 1997; Kain, 1993). They believe that the integrated curriculum is a learner- centred

approach that empowers students to generalize, transfer knowledge to a variety of situations in the real world, apply knowledge and skills in multiple subject areas, provide students with a more comprehensive learning experience and greater understanding that they cannot be obtained by examining the parts separately (Bansford, Brown & Cockin, 2002; Senechal, 2008). Advocates of the integrated curriculum view it as a plausible solution to developing a significant approach to teaching and learning (Adelman, 1999). To theses researchers, the idea of integrated teaching allows students to find out and understand the relationships between leaning in all curriculum areas.

Theoretical Framework

Curriculum Reform and the Pre-service Teachers' Subject Matter Knowledge:

Traditionally, the lack of success of many curricular reforms is attributed to the failure of teachers to implement the innovation due to their lack of subject matter knowledge. From this perspective many research results indicate that pre-service teachers who have solid knowledge of the subject matter that they teach are more effective as implementers of curriculum innovations. In addition, several studies showed positive correlation between teacher's knowledge of subject matter, higher student achievement and higher teacher performance (Darling-Hammond, 1999; Monk, 1994, Eisner, 1992) particularly in mathematics, science and reading (Coldhaber & Brewer, 2000; Monk, 1994; Ferguson & Womack, 1993). Eisner (1992) for example argued that the lack of knowledge and the feeling of insecure about a subject may lead to the decrease in pre-service teachers' effectiveness. For these researchers, knowledge of subject matter cannot be acquired as pre-service teachers practice their field experience. The assumption that teachers' understandings of their subjects develop as they teach has little evidence in previous research studies.

Therefore, Shulman's studies of teachers' knowledge and thinking have come to be viewed as one of the most important aspects of educational research. Shulman(1986) indicated that whilst a knowledge base for teaching was supported rhetorically, its character base was rarely specified. Shulman's work was influential particularly in conceptualizing subject knowledge and its pedagogical application. Shulman (1986) found that teaching and learning to teach must be viewed in discipline- specific perspectives. Thus, Shulman (1986) emphasized the importance of three categories of knowledge, the pedagogical content knowledge, the subject matter knowledge and the curriculum knowledge. For Shulman (1986), subject matter knowledge pertains to a core teacher's depth and breadth of understanding and conceptualizing of his or her certification area (e.g., mathematics for a mathematics teacher) while pedagogical knowledge refers to a teacher's knowledge of general pedagogy such as classroom management, questioning, planning and so forth. Furthermore, some researchers such as An., Kulm, & Wu (2004), Park & Oliver (2008) and Grossmann (1990) added knowledge of students to Shulman's three categories. Other researchers like Ball, Hill & Bass (2005) classified teacher knowledge into four categories- general pedagogical knowledge, subject matter knowledge, subject-specific pedagogical content knowledge and knowledge of context.

The agreement among researchers to include subject matter knowledge indicates its importance as a central requirement of what makes a qualified competent teacher. Therefore, top-down reforms have emphasized the importance of the acquisition and development of subject knowledge as a prerequisite for early teacher training and professional development. This emphasise on specific subject matter was justified as to teach the innovative curriculum in primary schools, strong subject matter knowledge is needed. Cochran- Smith & Lytle (1992) for example, believe that focusing on what teachers know or need to know is an idea

that is affected by the attempts to improve curriculum through research and practice. For example, Wragg, Bennett & Carre (1989) reported a survey of teachers in 400 primary schools in Britain, which found that many seemed to have inadequate knowledge of some subject areas, and did not feel comfortable when they teach them in the curriculum: science being identified as particularly challenging, followed by mathematics. Another study in the same research program (Bennett ,1993) found that teachers' subject knowledge, across a range of subjects, to be limited when they were tested at the beginning and end of their training. A conclusion drawn in much of this work was that these low levels of subject knowledge were challenging: teachers could not teach what they did not know (Bennett, 1993); Furthermore, curriculum innovation can hardly be successful unless teachers' knowledge of subject matter is taken into account. Therefore, subject knowledge in pre-service teachers' academic courses should be enhanced and prioritized since curriculum innovation requires pre-service teachers to have solid knowledge of subject matter to be able to transform curriculum documents or ideas into practice.

Teaching Mathematics & Science Reformed Curricular:

The current reform movement in science and mathematics curricular places far more responsibility within the hands of individual teachers. Teachers are expected to make numerous on-the-spot decisions about how to enhance student thinking as they struggle to understand the subject matter. Different disciplines require different types of specific knowledge and competencies which are considered important factors that influence teaching (Neumann, 2001). According to Schwab (1978) subjects are structured according to the ways in which their content was arranged and organized (substantive structures), or according to the accepted ways of adding that knowledge (syntactic structures). Knowledge of mathematical rules for example, may require pre-service teachers to know how to justify why they work. They should have the ability to choose appropriate tasks, examples and a

repertoire of teaching strategies. They should know about students' conceptions, misconceptions and the difficulties their students face in order to eliminate these difficulties effectively.

In teaching science and mathematics to elementary school students, the focus of the curriculum is usually on the content and delivery of subject matter. Therefore, the curricular are linear, step-by-step, and most importantly subject dependent. The language of mathematics for example, has its own terminology, syntax (sentence structure), semantic properties (truth conditions), and discourse (text) features. Unlike natural language, however, math texts: (a) are conceptually packed, (b) require up-and-down and left-to right eye movements, (c) require multiple readings, (d) are made up of a variety of symbols, charts and graphs, and (e) contain a great deal of particular language with precise meanings (Bye, 1975).

Mathematics content requires the student to apply not only language but also mathematics concepts, procedures, and applications they have already learned. Thus, the classroom environment in which English is used as a language of instruction to teach mathematics, should promote second language acquisition through a natural process in which the focus is not on the language but on communicating the process and applications of mathematics.

Similarly, to teach science, teachers need a number of science teaching approaches such as inquiry and discovery approaches and successful science teaching models (Bybe, 1987). Additionally, they need to understand how to analyse and how current theories are related to science curricula (Fleer & Hardy, 2001). Learning science provides a wide range of language functions; extensive vocabulary; and the use of previous educational experience for developing new concepts. It gives a rich context for authentic language use. It provides opportunities for students to negotiate meanings; plenty of language input; materials for developing reading and activities for developing writing.

repertoire of teaching strategies. They should know about students' conceptions, misconceptions and the difficulties their students face in order to eliminate these difficulties effectively.

In teaching science and mathematics to elementary school students, the focus of the curriculum is usually on the content and delivery of subject matter. Therefore, the curricular are linear, step-by-step, and most importantly subject dependent. The language of mathematics for example, has its own terminology, syntax (sentence structure), semantic properties (truth conditions), and discourse (text) features. Unlike natural language, however, math texts: (a) are conceptually packed, (b) require up-and-down and left-to right eye movements, (c) require multiple readings, (d) are made up of a variety of symbols, charts and graphs, and (e) contain a great deal of particular language with precise meanings (Bye, 1975).

Mathematics content requires the student to apply not only language but also mathematics concepts, procedures, and applications they have already learned. Thus, the classroom environment in which English is used as a language of instruction to teach mathematics, should promote second language acquisition through a natural process in which the focus is not on the language but on communicating the process and applications of mathematics.

Similarly, to teach science, teachers need a number of science teaching approaches such as inquiry and discovery approaches and successful science teaching models (Bybe, 1987). Additionally, they need to understand how to analyse and how current theories are related to science curricula (Fleer & Hardy, 2001). Learning science provides a wide range of language functions; extensive vocabulary; and the use of previous educational experience for developing new concepts. It gives a rich context for authentic language use. It provides opportunities for students to negotiate meanings; plenty of language input; materials for developing reading and activities for developing writing.

Yet, some previous studies suggest that the preparation received by pre-service teachers is inadequate for teaching toward high subject-matter standards. These studies indicated that pre-service teachers may have mastered basic skills, but they lack the necessary conceptual understanding that is essential when responding to questions targeted to them by their students and when extending lessons beyond the basics. In mathematics for example, pre-service teachers in elementary and secondary education had relatively sound procedural or rule-dominated knowledge of basic mathematics, but had problems when pushed to explain why procedure works and algorithm (Eisenhart et al. 1993). In addition, Deborah et al. (2008) found out that many of the tasks implemented by teachers require mathematical knowledge that has nothing to do with students or teaching. For example, knowing what method will work requires subject matter knowledge and skills independent of knowing about students or teaching. Deborah et al. (2008) then hypothesized that some aspects of subject matter knowledge – not pedagogical content knowledge- need to be explored and included in teachers' mathematics courses. Furthermore, in a study conducted by Aubrey (1997) to investigate early years teachers' knowledge of mathematics content, teachers claimed that their knowledge of mathematics was not often extensive. He then concluded that this apparently was due to the low levels of subject knowledge which he considered problematic. Likewise, Carlsen (1999) examined the discourse of biology pre-service teachers in natural classroom settings and found that pre-service teachers, who are unfamiliar with subject matter tended to close down classroom discussion, closely follow the textbooks and delay instruction at the beginning of class.

To sum up, teachers can't teach what they do not know (Bennett, 1993). Subject matter knowledge in teacher preparation programs and professional development programs of teachers should be enhanced and prioritised. Previous research findings lent support to

education reforms which are moving towards the direction of giving subject matter knowledge great importance to teach different subjects in primary schools and a stronger focus on subject knowledge study in primary teacher education programs.

Pre-service teachers field experience studies conducted in the UAE

While there is a plentiful, varied and extensive literature on teacher education that represents the process of becoming a teacher, much less has been available in the UAE context. In addition, the majority of the researches on pre-service teachers in the UAE have been conducted mostly by university professors. Most of these researches focused mainly on pre-service teachers' use of technology to examine course materials in a field experience setting. These studies were probably influenced by the increasing demand of utilizing technology in K-12 classrooms in the UAE. Hence, researchers were motivated to explore the big question of whether the use of technology by pre-service teachers help improve their teaching.

Recently, there has been a notable amount of valuable studies in the UAE that focus on pre-service teachers' uses of ICT e.g. use of computer (Almekhlafi, 2004), the use of interactive whiteboard (Ishtaiwa & Shana, 2011), videoconferencing utility for observing technology integration (Almekhlafi, 2006), pre-service elementary teachers' self-efficacy beliefs toward technology integration into the classroom in the UAE(Al-Awidi & Alghazo, 2012), and the perceptions and validation of electronic portfolios' use (Almekhlafi, Al-Mekhlafy & Forawi, 2011). The study which was conducted by Ishtaiwa & Shana (2011) for example, aimed to investigate the relation between the use of interactive white board by pre-service teachers and Arabic learning development. The study revealed that pre-service teachers' competencies and expertise correlate with their ability to use technology in the class to enhance learning. The researchers concluded that the way pre-service teachers incorporate technology into instruction in terms of presentation and explanation of concepts and ideas had a recognizable

impact in their teaching during their practicum sessions. Another study was conducted by Almekhlafi (2006)to investigate UAE pre-service teachers' perceptions of the Utility of videoconferencing (VC) technology to observe the integration of technology by teachers in k-12 classrooms in the United Arab Emirates. The purpose of the study was to investigate the utility of VC technology from the point of view of pre-service teachers at the College of Education, United Arab Emirates University. The study involved 94 pre-service teachers, who were registered in an educational technology course at the College of Education in the United Arab Emirates University. The researcher believes that videoconferencing can enable pre-service teachers see classrooms in action without physically going to schools. Participants observed via VC a series of 45 minutes lessons, where technology integration was the focus of these lessons. After given pre-service teachers the chance to interview teachers at the distant sites, pre-service teachers were asked to fill a questionnaire about their perceptions of the utility of VC for observing technology integration in these classrooms. In addition, they were also asked to reflect more on the utility of VC technology through discussion forums on Blackboard. Results indicated a high self perception of the utility of VC for classroom observations. In addition, the results revealed that VC technology can be a very important delivery method. VC technology can be utilized to provide multiple opportunities to examine the reality of teaching as well as real examples of the implementation of theoretical concepts. The researcher recommended that Universities and schools should cooperate with each other to take an advantage of this technology. He believes that VC technology helps overcome some barriers that may hinder classroom observation visits to pre-service teachers, such as time limitation, transportation, and lack of supervisors who can accompany pre-service teachers to the schools. Furthermore a similar study was conducted about technology integration by Al-Awidid & Alghazo (2012) to examine the effect of the UAEU pre-service teachers' teaching experience on their beliefs about technology integration in teaching .

Results indicated a significant effect of pre-service teachers' experiences of their self-efficacy about technology integration. In addition, the findings of the study revealed that mastery experience and explicit experience reported to be the most influential sources of self-efficacy to integrate technology among UAEU elementary pre-service teachers.

While the issue of the integration of technology into teaching and learning by pre-service teachers received great attention by many researchers in the UAE, very few studies were carried out to investigate UAE pre-service teachers' perceptions of their educational preparation. One of the most important studies about pre-service teacher's perceptions of their educational preparation was the study conducted by Tairab (2008). Tairab's study aimed at investigating the extent to which the UAEU pre-service science teachers felt they were prepared by their education program to teach science in elementary and secondary schools. The study also aimed at investigating the UAEU pre-service science teachers perceptions about the balance between various components that make up their teacher education program. A 30-item questionnaire was structured based on a teachers education conceptual framework adopted by the College of Education of the UAEU, and Danielson's (2002) model for teaching. Participants were given the questionnaire during their posting to schools for their teaching practice. They were asked to respond to the questionnaire, taking into consideration the result of their training as pre-service teachers and to indicated the extent to which they perceived themselves as prepared to teach science effectively in their hosted schools. Results of the study indicated that part of the dissatisfaction of pre-service teachers with their level of subject matter knowledge might be due to the lack of integration between what they taught at school and what they studied at the university. Although the UAEU pre-service science teachers responded that they were adequately prepared in most categories, the researcher believes that some educators would argue that graduates should be well prepared in all the

surveyed categories. The findings of the study also revealed the need for systematically collecting perceptual information from university students and constantly re-examining teacher education program structure so that intended outcomes are sustained. The researcher pointed out that the education program had more focus on theoretical aspects rather than fieldwork and practical activities.

CHAPTER THREE

Methodology

Introduction

The main goal of this study was to understand the challenges faced by the UAEU English pre-service teachers as they were coping to teach within a major curricular reform during their teaching practicum. The focus was on elementary school UAEU English pre-service teachers who were involved in the UAEU teaching practicum program in the Fall of 2011/2012. The study incorporated a qualitative method design which utilized a combination of semi-structured interviews, a questionnaire and an observation checklist. The use of different data-collection methods helped check the consistency of findings, (i.e., methods triangulation). The data were analyzed using qualitative study methods and procedures. The analysis of the study was founded in an inductive approach, which is based on comparative method of data analysis that required the researcher to take one piece of data (i.e. one interview, one statement...etc) and compare it with all of the other pieces that were either similar or different (Patton, 1990).

This chapter serves to delineate the methodological procedures used in this research study. This chapter includes the grounded theory approach, descriptions of the research design, participants, instruments, data collection, data analysis, strategies for assuring validity, reliability and trustworthiness.

The Grounded Theory Approach

Qualitative research methods are more appropriate to understand meanings people assign to their experiences (Creswell, 1998). This study was best suited to a qualitative design because it aims to find out the challenges encountered by the UAEU English pre-service during their field experience as they were coping to teach within a major curriculum reform.

Therefore, the grounded theory was the specific qualitative design selected for this study. The researcher followed a grounded theory approach appropriate for the nature of this study to collect data about the pre-service teachers' field experience challenges from the educational field.

The Grounded theory as a methodology was originally developed by two sociologists, Glaser and Strauss. In grounded theory, a researcher does not begin a research with a predetermined theory in mind. Rather, the researcher begins with an area of study and allows the results to surface from the data (Strauss & Corbin, 1998). Thus, since the grounded theory is "grounded" in data, it reflects the reality as to when data is authentic. Strauss and Corbin (1998) emphasized that: "Theory derived from data is more likely to resemble the 'reality' than is theory derived by putting together a series of concepts based on experience or solely through speculation " (p.12).

To find an inductively derived data about a phenomenon, the grounded theory method utilizes a specific, logical set of procedures. The main procedure aims at coming up with categories that are well defined and detailed (Strauss & Corbin, 1998). Furthermore, analysis in grounded theory is composed of some coding techniques. First, the researcher breaks down, examines, compares and categorizes data collected from different resources (i.e. the interview, the questionnaire , the observation checklist...). Second, the researcher tries to put the data back together in new ways under main themes. Third, the researcher begins to relate the categories to context, and consequences. Finally, a core category is selected, then systematically the researcher relates it to the other categories and validating those relationships.

Using grounded theory research methodology, the researcher found out about the UAEU English pre-service teachers field experience challenges as they were coping to teach within a major curricular reform.

Research Design

This study employed a systematic grounded theory design to address the research questions. Glaser and Strauss (1967) developed this qualitative approach to address research questions for which no existing theory fits. In this study, the researcher used the steps of the systematic grounded theory method in collecting data from participants to understand their challenges and field experiences as they taught within a major reform context. Strauss and Corbin (1998) stated: "the grounded theory approach is a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon" (p. 24).

Thus, the study employed a qualitative research design to explore the UAEU English pre-service teachers' field experience challenges within a major curricular reform. A qualitative research approach is one that seeks to gain understanding by including a holistic view of a specific context. The researcher builds a holistic picture, reports detailed views of informants, and carries out the study in a natural setting by answering how and why questions (Creswell, 1998).

In education, qualitative research mainly entails investigating practices, or perspectives in order to gain in-depth data, detailed examination and understanding of what is being studied (Merriam, 1998; Patton, 1990; Creswell, 1998). The choice of qualitative design is consistent with Creswell's description. Creswell (1998) emphasizes that a qualitative research is preferred when variables cannot be identified and when theories are not available to explain behaviour of participants. In addition, qualitative approach is preferred than using methods within a quantitative design as it gives the participants the chance to incorporate a broader range of information.

A background information survey was used to gather general background data about the cooperative teachers. The survey includes information about the participants' gender,

elementary school type, grade level the cooperative teacher teaches, subjects s/he teaches, length of teaching experience and number of pre-service teachers s/he mentors (See Appendix A). Another background information survey was used to collect background information from the subject support specialists. The survey aimed at gathering information about the gender, specialization, length of supervision experience and the number of times a subject support specialist supervised pre-service teachers (See Appendix B).

A semi structured interview was conducted with the UAEU English pre-service teachers to answer the first research question about the challenges that UAEU English pre-service teachers face during their field experience within ADEC curricular reform (See Appendix C). A questionnaire was completed by the cooperative teachers to answer the second research question about the challenges that UAEU English pre-service teachers were able to overcome (See Appendix D). An observation checklist was used to collect an in-depth data about the extent to which the UAEU English pre-service teachers were prepared to teach within a major curricular reform and thus provide answer to the third research question (See Appendix E). Examining the UAEU English pre-service teachers, the cooperative teachers and the subject support specialists' responses helped identify the common themes and hence created a general profile and an answer to research question four about the major issues pertinent to the challenges the UAEU English pre-service teachers face during their field experience within ADEC curricular reform.

The Participants

The participants of this study consisted of 5 UAEU English pre-service teachers (5 female pre-service teachers who were enrolled in the teaching practicum in the Fall semester of the academic year 2011-2012 to pratcice teaching in Al-Ain public schools, agreed to participate in the study) and 5 cooperative teachers at two elementary schools where the pre-service

teachers were placed during their field experience. The 10 participants were all females (no male English pre-service teachers were registered in the course). The UAEU English pre-service teachers assumed responsibility for teaching 2 to 3 periods per day to grades 1, 2 and 3. Each English pre-service teacher assigned only one grade level to teach and was mentored by a cooperative teacher, supervised by a university professor and a subject support specialist during her practicum.

No certain criteria were developed by the UAE University regarding the selection of cooperative teachers, but generally the specialization of the cooperative teachers should match those of the pre-service teachers. No specific teaching experience was required.

In this study, the cooperative teachers' professional experience ranged from 4 to 12 years, with an experience of mentoring pre-service teachers ranges from 1 to 5 years. For the purpose of this study, each English pre-service teacher and each cooperative teacher was given a pseudonym to keep her identity anonymous and the schools were referred to as School A and B, to ensure anonymity as well as confidentiality. Subject support specialists have supervision experience in the field of education ranges from 12 to 16 and more than 10 years of experience in mentoring and supervising pre-service teachers.

Instruments

The data were gathered in the fall semester of the academic year of 2011-2012. The data were collected through background information surveys (See Appendices A & B), a semi-structured interview with UAEU English pre-service teachers (See Appendix C), A questionnaire applied to cooperative teachers (See Appendix D), and classroom observation checklist conducted by subject support specialists of ADEC (See Appendix E).

To answer the research first question about the challenges the UAEU English pre-service teachers faced during their field experience, semi-structured interviews were conducted with

the five UAEU English pre-service teachers. The data collected from the questionnaire was used to determine the challenges the UAEU English pre-service teachers were able to overcome and hence answer the second research question. Observations for each participant were conducted to address the third research question, in which data about the UAEU English pre-service teachers' preparation to meet the challenges of curricular reform were collected. The use of multiple resources helped to create a general profile and in turn helped to improve the trustworthiness of the research findings.

The Background Information Surveys: The two background surveys were used to gather general background information about the cooperative teachers and the subject support specialist of English, mathematics and science (See Appendixes A & B).

The cooperative teacher background survey requires information about gender, school type, grade level the cooperative teacher teaches, subjects the cooperative teacher teaches, length of teaching experience, number of times the cooperative teacher mentored pre-service teachers and the number of UAEU English pre-service teachers they mentored in Fall semester of 2011- 2012 (See table 1).

Table 1: Demographic Information of Female Cooperative Teachers in Elementary Public Schools

Cooperative Teacher	Grade level	Subjects taught (English, Mathematics or Science)	Years of Experience	Experience in mentoring pre-service teachers
1	2	All	6	first time
2	1	All	9	first time
3	3	All	4	first time
4	3	All	5	first time
5	1	All	12	from 2 to 5

The second background survey was used to collect background information from the subject support specialists. This background information includes data about gender, specialization, subjects a subject support specialist supervises, length of supervision experience, number of times they supervised pre-service teachers, and number of times they observed UAEU English pre-service teachers in Fall 2011- 2012 (See table 2).

Table 2: Demographic Information of Female Subject Support Specialists

Specialization	length of supervision experience	Times supervising pre-service teachers	Number of pre-service teachers observed
English	12 years	more than 10	5
Mathematics	16 years	more than 10	5
Science	16 years	more than 10	5

A Semi-structured Interview: The semi- structured interview was conducted during student teaching field experience. In addition to prepared questions, other spontaneous and elaborative questions were asked by the researcher to clear some views and for threaded discussion purposes.

The interview design included both specific and general questions starting with the more general and leading to more specific questions. The background information questions were asked at the beginning of each interview followed by interview questions dealt directly with the first research questions.

The purpose of the interview was to provide detailed information reported by the pre-service teachers themselves about challenges they encountered during their field experience in the context of curricular reform. Thus, the questions were asked about field experience to determine the challenges the UAEU English pre-service teachers faced during their teaching

of mathematics, science and English. Samples of questions that were asked included: What challenges do you face when teaching each subject (English, mathematics and science)? Why do you think you encounter these challenges? and; challenges were you able to overcome and what problems do you think remain unsolved?

To get information about the UAEU practicum program from the point of view of the pre-service teachers, questions were asked to get the UAEU English pre-service teachers opinion about the preparation they received during their course study and how this preparation helped them to overcome the problems they mentioned. The UAEU English pre-service teachers were also asked about what should be done to enable them to meet the requirements of the curricular reform during their field experience (See Appendix C).

A Cooperative Teacher Questionnaire: The cooperative teacher questionnaire, consisted of 7 items on a 5-point likert scale rating from strongly disagree "1", to strongly agree "5", and three open ended questions, was used to collect data about the UAEU English pre-service teachers performance during their field experience, the challenges they faced, the challenges they were able to overcome and how they overcame those challenges.

Items included in the questionnaire focused on cooperative teachers' rating of pre-service teachers' knowledge of subject matter of English, mathematics and science and knowledge of curriculum (i.e catering for students' individual learning styles when designing instruction, structuring learning materials to develop significant learning experiences, the use of available resources and teaching the integrated curriculum). Cooperative teachers were also asked to respond to 3 open ended questions about areas the UAEU English pre-service teachers were good at in teaching English, mathematics and science, problems they faced as they taught English, mathematics and science and, how they were able to overcome these problem (See Appendix D).

An Observation Checklist: A total of 15 classroom observations by the three subject support specialists of English, mathematics and science took place in a natural classroom setting. Creswell (2003) suggested that observations should take place in a natural setting to access pertinent information. Classroom observations lasted 30 to 45 minutes.

The choice of answers in the observation checklist was given in a Likert scale ranging from excellent "5" to poor "1." The focus was on the knowledge of subject matter of English, mathematics and science (i.e. knowledge of central concepts, the use of inquiry methods that are central to the discipline, designing instruction appropriate to students' learning styles, engaging students in meaningful learning, linking curriculum to prior learning, the use of different resources and curriculum materials for instructional delivery, and the use of integrated approaches to teaching and learning). In addition, subject support specialists were asked to respond to three open ended questions about the UAEU English pre-service teachers' strengths and the problems they faced in teaching each subject and whether they were prepared to meet the challenges they faced during their field experience within the ADEC curricular reform (See Appendix E).

Criteria which are related to knowledge of subject matter and knowledge of the curriculum was adapted from Danielson's Framework for teaching (1996) and Shulman (1986) two categories of subject matter knowledge (including knowledge of concepts and knowledge of syntactic structure) and knowledge of curriculum. According to Danielson's framework for teaching, pre-service teachers should demonstrate clear and intentional focus on subject matter as well as content and curriculum. For Danielson, knowledge of subject matter is the basis of a discipline that includes factual information, organizing principles, and central concepts. This view of the importance of subject matter knowledge aligns well with Shulman's definition of subject matter. For Shulman (1986), knowledge of subject matter

involves knowledge of concepts and facts as well as knowledge of syntactic structure including legitimacy principles for rules of a particular subject domain.

Based on Danielson's framework for teaching and Shulman two categories of subject matter knowledge , indicators of subject matter knowledge and curriculum knowledge includes lesson and unit plans that reflect important concepts in the discipline. lesson and unit plans that accommodate prerequisite relationships among concepts and skills, awareness of typical student misconceptions in the discipline and work that mislead them , accurate answers to student questions and inter-disciplinary connections in plans and practice.

In addition, Danielson believes that the pre-service teacher should have good knowledge of content and pedagogy and knowledge of resources. They should be familiar with the particularly pedagogical approaches best suited to each discipline and students' learning styles. They should select resources that align directly with the learning outcomes and which will be of most use to the students to develop significant leaning experiences.

Procedures & Data Collection

Qualitative research methods were used in this research study which was conducted in public elementary schools in Al-Ain. Background information about the cooperative teachers and the subject support specialists was collected using background information surveys. While, English pres- service teachers' background information was collected at the beginning of each interview. Interviews were conducted at the school site of each of the five UAEU English pre-service teachers with the intended population. Data was collected from the UAEU English pre-service teachers through face to face interviews for about half an hour. All interviews were conducted by the researcher using audio-recording. Each interview was then transcribed, including repeated words, false starts and verbal pauses to keep the spirit of the interviews. Each transcript included the pseudonym of the interviewee and the location of

the interview (Rubin & Rubin, 2004). Some participants were given a verbatim transcription of their interviews to read and check. Transcriptions were then typed for further analysis. In advance, the UAEU English pre-service teachers and their cooperative teachers were informed of the purpose of this research study.

A questionnaire was filled in by 5 cooperative teachers who mentored the 5 UAEU English pre-service teachers at the elementary school sites. Anonymity as well as confidentiality was ensured. A coding system was developed to ensure anonymity of participants. All the UAEU English pre-service teachers and their cooperative teachers were given pseudonyms.

Observations of the UAEU English pre-service teachers' performance took place when teaching the three subjects: English, mathematics and science. Observers were mainly ADEC subject support specialists of English, mathematics and science. The observations took place in the classrooms of the UAEU English pre-service teachers who were interviewed. The presence of the subject support specialists as observers did not distract the UAEU English pre-service teachers in class, since they were used to these type of observation by their cooperative teachers, their subject support specialists, their peers and the university supervisors. The observations were recorded using the observation checklist. The main purpose of observation was to assist in drawing meaningful inferences about pre-service teachers' knowledge of subject matter and knowledge of the curriculum which can reveal whether they were prepared to meet the challenges they faced as they taught within a major curricular reform, and to help triangulate the data.

Participant responses' were then sorted into categories represented by the main questions of this research study and general grounds were established among the results and the findings of the interviews, the questionnaires, and the observation.

the interview (Rubin & Rubin, 2004). Some participants were given a verbatim transcription of their interviews to read and check. Transcriptions were then typed for further analysis. In advance, the UAEU English pre-service teachers and their cooperative teachers were informed of the purpose of this research study.

A questionnaire was filled in by 5 cooperative teachers who mentored the 5 UAEU English pre-service teachers at the elementary school sites. Anonymity as well as confidentiality was ensured. A coding system was developed to ensure anonymity of participants. All the UAEU English pre-service teachers and their cooperative teachers were given pseudonyms. Observations of the UAEU English pre-service teachers' performance took place when teaching the three subjects: English, mathematics and science. Observers were mainly ADEC subject support specialists of English, mathematics and science. The observations took place in the classrooms of the UAEU English pre-service teachers who were interviewed. The presence of the subject support specialists as observers did not distract the UAEU English pre-service teachers in class, since they were used to these type of observation by their cooperative teachers, their subject support specialists, their peers and the university supervisors. The observations were recorded using the observation checklist. The main purpose of observation was to assist in drawing meaningful inferences about pre-service teachers' knowledge of subject matter and knowledge of the curriculum which can reveal whether they were prepared to meet the challenges they faced as they taught within a major curricular reform, and to help triangulate the data.

Participant responses' were then sorted into categories represented by the main questions of this research study and general grounds were established among the results and the findings of the interviews, the questionnaires, and the observation.

Data analysis

The study had mainly a qualitative element in that it was based on the 'holistic picture, formed with words' (Creswell, 1994) arising from the pre-service teachers responses to interview questions, the cooperative teachers' responses to the open ended questions and the subject support specialists' responses to open ended questions. Yet, the study had also a partly quantitative element in that frequencies were calculated for the cooperative teachers' responses and the subject support specialists' responses to the Likert scale items.

Patton (2002) emphasized that "the challenge of qualitative analysis lies in making sense of massive amounts of data." (p. 432). Qualitative data analysis entails reducing the amount of raw data; identify patterns, and finding common themes of what the data reveal (Patton, 2002). Analysis of the data occurred in the following three steps: categorizing the data, describing the data, and summarizing the data (Creswell, 2002).

A grounded theory approach was used in the analysis of the qualitative data while themes were inductively derived from the data (Bernard, 2000). Based on Bernard's (2000) 'mechanics of grounded theory' cooperative teachers' responses to the three open-ended questions included in the questionnaire in addition to the subject support specialists' responses to open ended questions included in the observation checklist were coded and categorized. As categories were developed they were reviewed and checked several times to identify similarities, differences and other patterns that linked them.

Analysis of Interview Data: The UAEU English pre-service teachers responded to each of the interview questions, and their answers were categorized into emergent themes. Themes are summary statements and explanations of what was going on.

The data-analysis process entailed multiple readings of each interview transcript until the emerged patterns could be identified. The researcher kept looking for key phrases that were repeated in each interview and across the interviews of all participants. Some of the key

phrases that were repeated in the interviews included ADEC curriculum, challenges, course work, practicum, planning, knowledge of mathematics and science and finding resources and materials. Keywords were then highlighted using highlighter markers and pens of various colours in the transcripts of the interviews. After finding and integrating themes, the researcher began to code them to examine all of the data units that refer to the same subject across all the interviews. The transcripts were coded using a marginal coding technique (Creswell, 2002).

After each interview was coded categories were developed and analyzed using the main themes and the results of the research were accumulated to provide an answer to the first research question about the challenges the UAEU English pre-service teachers encountered during their field experience. Some of the UAEU English pre-service teachers' quotes were selected that best illustrate the meaning of the category; and to provide a "voice" to pre-service teachers interviewed when describing the data. The use of direct quotes can be used to support the researcher's interpretations and conclusions (Brantlinger et al. 2005).

To ensure validity, each participant was given the transcription of her interview to read and check. Participants' checking is a commonly used method for ensuring validity in qualitative research (Fraenkel &Wallen, 2003; Merriam, 2002). None of the participants raised any issues or comments regarding the quality of the transcriptions; additionally, subject support specialists checked and discussed interpreted data collected in an ongoing basis.

Analysis of the questionnaire data: The quantitative data from the structured questionnaire were analyzed and categorized under three themes; knowledge of subject matter, knowledge of curriculum and the challenges the UAEU English pre-service teachers were able to overcome when teaching English, mathematics and science. The questionnaire was used to provide the level of agreements amongst cooperative teachers responses regarding pre-service teachers' field experience challenges. With regard to the structured questionnaire, cooperative

teachers responded to prompts by responding to different questionnaire items (Likert scale ranging from strongly agree "5" to strongly disagree "1"): these data were analyzed quantitatively using descriptive analysis method to describe the distribution and range of responses to questionnaire items.

Graphical analysis were used as a means of displaying the data gathered from the cooperative teachers' responses to the questionnaire in visual formats that make it easy to see patterns and identify similarities or differences among the results set.

Additionally, the cooperative teachers written responses to open ended questions were analyzed by the subject support specialists and categorized under common themes including the challenges that the UAEU English pre-service teachers faced during their field experience within the ADEC curriculum reform and the challenges the UAEU English pre-service teachers were able to overcome. The open-ended questions collected data that added more in-depth insights to the challenges that UAEU English pre-service teachers encountered during their field experience within ADEC curricular reform and how they tried to overcome these challenges.

Analysis of Observation Data: The UAEU English pre-service teachers' classroom performances were observed and the observations were recorded by ADEC subject support specialists of English, mathematics and science using an observation checklist. Hatch (2002) described observations as the "cornerstone of data collection" in qualitative research.

It is important to note here that the three subject support specialists were non-participant observers. The observation checklist was used not only to give a structure and framework for the observers to follow but also to support results obtained from the interview and the questionnaire.

The quantitative data from classroom observations were analyzed and categorized under two main themes: knowledge of subject matter and knowledge of curriculum. Line graphs were

used to display results gained from the subject support specialists' responses to likert scale items in the observation checklist in visual formats that make it easy to identify patterns of similarities and differences among the results set. The written responses for the open ended questions from each observation were analyzed and categorized under two main themes: the UAEU English pre-service teachers' coursework preparation to teach within a major curricular reform and the discrepancy between the university teaching education program and the field experience reality. The subject support specialists' responses were matched to the third research question.

The structured questionnaire method, the classroom observation and the semi-structured interview provided an evidence of consistency between data collected using the three methods. Data gained through the three different methods complemented each other and helped in giving thick description of the studied phenomena. Interviews were more exploratory of the challenges encountered by the UAEU English pre-service teachers during their field experience within ADEC curriculum reform while the observation and the questionnaire were more confirmatory of the challenges the UAEU English pre-service teachers encountered within a curriculum reform context , how they managed to overcome some of these challenges and the preparation they received from their university coursework to meet the requirements of ADEC curriculum reform.

The three sources of data collection; the interview, the questionnaire and the observation provided rich details about the UAEU English pre-service teachers' field experience challenges and how they coped to teach within a major curricular reform thus answered the fourth research question and hence allowed for triangulation.

Validity and Reliability: In qualitative research validity refers to the making of value judgement by assuring that the results matched what really happened. Merriam (2002) suggests a variety of strategies for enhancing validity for qualitative research. These

strategies are: triangulation of the data; observations at the research site; peer examination of the findings; and, clearly stating researcher's biases (Merriam, 2002). Consequently, the collection of multiple data about the five UAEU English pre-service teachers enabled the researcher to triangulate the findings. Collection of data was obtained from multiple resources using a semi structured interview, observation checklist and the questionnaire. All observations took place in schools where the UAEU English pre-service teachers for their field experience in order to increase the validity of the research findings. Peer examination of the findings including responses given by the cooperative teachers to the questionnaire, observation checklist responses given by the subject support specialists as well as the UAEU English pre-service teachers responses to interview questions were checked by two subject support specialists. Participants' checking was also conducted to increase the validity of the research findings. The UAEU English pre-service teachers were given drafts of the interview analysis so they could check the accuracy of the researcher's interpretations of their perceptions.

In qualitative research, reliability looks at whether the results are consistent by using an audit trail. In order for an audit to take place, the researcher described in detail how data were collected, how categories were derived, and how decisions were made. The two subject support specialists listened to the tapes of interviews, read observation notes and analysis, examined the questionnaire analysis, and then compared that information to the written perceptions of the researcher and determined that they "match". In addition, the SPSS program was used to check reliability of quantitative data collected through the likert scale items in the questionnaire. For example, for the quantitative analysis of the likert scale questionnaire items that demonstrate pre-service teachers knowledge of curriculum, the alpha coefficient was .722, suggesting that the items have relatively high internal consistency.

Trustworthiness

Trustworthiness is a critical and necessary component to valid qualitative research (Lincoln & Guba, 1985). If qualitative research is to be of value to others, either in their understanding of the problem investigated or as a step for future research, then the procedures and interpretation must be trustworthy, or credible. According to Lincoln & Guba (1985), various criteria can be met to insure that a study is trustworthy. First, the researcher must have good knowledge of the participants. In this study in-depth knowledge of participants was achieved by in-depth interviews with the UAEU English pre-service teachers, and an adequate number of visits to the research sites as well as adequate number of classroom observations of participants. Second, the researcher must always be aware of his/ her bias. During the interviews a conscious effort was made to avoid agreeing or disagreeing with any points, comments, or feelings expressed by the UAEU English pre-service teachers so as not to influence their responses. Third the researchers provide a rich and thick description of the participants' interpretations and settings. In this study, the researcher provided detailed descriptions of participants, data collection, and analysis procedures. Fourth, using a process called member checking that assists in ensuring that the interpretations of the researcher match the perceptions of the participants. The UAEU English pre-service teachers were given rough drafts of the document in order to check the accuracy of the researcher's interpretations of their perceptions. In addition, notes of the themes that were emerging as the interviews progressed were kept.

Finally, the audit trail proved to be useful in insuring trustworthiness and accuracy. Two subject support specialists listened to the tapes of interviews, read the transcriptions of the interviews, read observation notes and questionnaire data analysis, and then compared that information to the written perceptions of the researcher to determine if they "match. The auditing process proceeded after all data had been collected and analyzed.

Summary

This chapter provided an overview of the methodology that was utilized in the study. Five UAEU English Pre-service Teachers and their five cooperative teachers participated in this study. Background information surveys, interviews, a questionnaire and observation checklist were used as tools to collect data. The categories and codes employed in the data- analysis procedures used in this study are also provided in this chapter. This chapter has also outlined the protection and confidentiality ensured by the researcher for all the participants.

CHAPTER FOUR

Results

Introduction

This study was conducted to investigate the challenges the UAEU English pre-service teachers encountered during their field experience as they were coping to teach within ADEC major curricular reform. This chapter documents findings from data analysis.

Data collected from the interview with the 5 UAEU English pre-service teachers were transcribed then coded. The code categories were developed, analyzed and grouped according to common themes being assigned to the UAEU English pre-service teachers' responses on the challenges they faced during their field experience within ADEC curriculum reform and hence provided an answer to the first research question. Illustrative quotations of the UAEU English pre-service teachers were used to support findings of the results.

Data collected from the questionnaire and observation helped eliminating the bias that could occur during interviews. Descriptive as well as graphical analyses were used as a means of displaying the data gathered from the cooperative teachers' responses to the questionnaire in visual formats that make it easy to see patterns and identify similarities or differences among the results sets. In addition, the cooperative teachers written responses to open ended questions were analyzed and inserted into a specifically pre-formulated document, under common themes to specify the challenges the UAEU English pre-service teachers were able to overcome and those that remained unsolved. Additionally, descriptive as well as graphic data analyses were adapted to the subject support specialists' responses to the observation checklist to investigate the UAEU English pre-service teachers' preparedness to meet the requirements of ADEC curricular reform.

This chapter presents the results of the study. The purpose of the study was to investigate the challenges the UAEU English pre-service teachers faced during their field experience and

how they coped to teach within a major curriculum reform. The study tried to find answers to the following questions:

1. What challenges/problems related to the requirements of ADEC curricular reform do UAEU English pre-service teachers face during their field experience?
2. To what extent are the UAEU Pre-service Teachers able to overcome these challenges?
3. Are UAEU English pre-service teachers prepared to teach within the ADEC curricular reform context?
4. What major issues pertinent to the challenges do the UAEU English pre-service teachers face during their field experience within ADEC curricular reform?

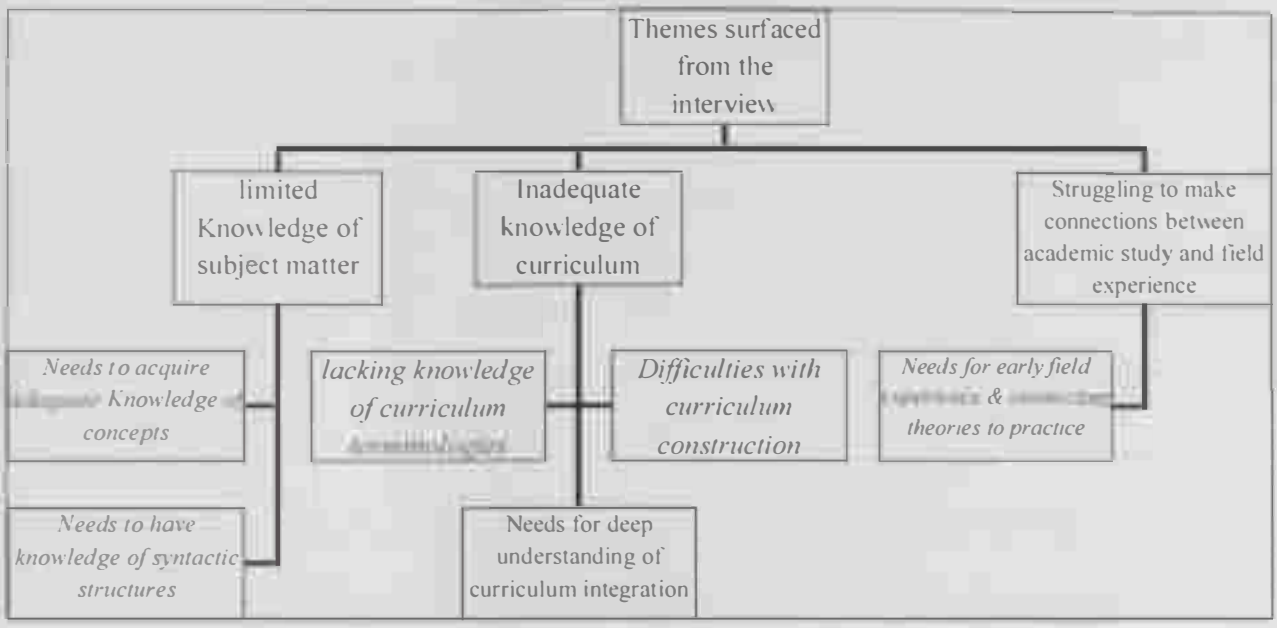
Data from the interview, the questionnaire and the observation were categorized into themes represented by the main questions of this study and a general profile base was gleaned from the results of the questionnaire, interview and the observation (See appendices C, D & E).

Data collected from the semi-structured interview with the five UAEU English pre-service teachers was used to answer the first research question about the challenges faced by the UAEU English pre-service teachers during their field experience. The data collected from the questionnaire was used to determine the challenges the UAEU English pre-service teachers were able to overcome. Data collected from observations was used to address the third research question about the UAEU English pre-service teachers' preparation to meet the challenges of curricular reform. Examining the UAEU English pre-service teachers, the cooperative teachers and the subject support specialists responses helped identify the main themes and thus provided an answer to the fourth research question.

Q1: What challenges/ problems related to the requirements of ADEC curricular reform do UAEU English pre-service teachers face during their field experience?

The first question focused on the challenges the UAEU English pre-service teachers faced during their field experience within a major curricular reform. Three themes were surfaced from the interview that provided a framework for reporting the challenges that UAEU English pre-service teachers faced during their field experience; Knowledge of subject matter of mathematics, science and English ; Knowledge of curriculum (ADEC Curriculum) and; Making connections between the academic study and field experience (See diagram 1).

Diagram 1: Themes surfaced from the interview



1. ***Knowledge of Subject Matter:***

a) Teaching Mathematics and Science: results were sorted based on Shulman (1986) categories of subject matter knowledge- knowledge of concepts and facts and knowledge of syntactic structure that includes legitimacy principles for rules of a particular subject domain. Results of this study revealed that the UAEU English pre-service teachers faced problems of

providing both types of knowledge identified by Shulman when teaching mathematics and science as follows:

1. Knowledge of Concepts: The study findings indicated that the UAEU English pre-service teacher's insufficient English proficiency to teach mathematics and science concepts and the adjustment with new terminologies of both subjects was one of the main challenges the UAEU English pre-service teachers encountered during teaching mathematics and science. Three of the UAEU English pre-service teachers admitted that they had problems explaining scientific or mathematical concepts in English and indicated that they found some differences between the use of English as a subject and the use of English as a medium of instruction to teach mathematics and science. The following comparison was made by Maha as she tried to explain the differences between teaching mathematics and science as subjects and teaching English as a language:

Maha: [Teaching English is completely different than teaching mathematics for example..... Teaching mathematics is more difficult you have to teach students how to subtract, how to add....Moreover mathematics and science concepts are very difficult to be taught.]

Furthermore, the UAEU English pre-services teachers referred to the content knowledge of mathematics and science as jargon or terminology. They described the complexities of the teaching process of mathematics and science as conceptual understanding that they lacked because of improper preparation. Aisha explained how she found it difficult to teach science and mathematics terminologies in English and how the help she received from her cooperative teacher was not enough to help her solve the problem. Aisha illustrated this point in the following quote:

Aisha: [I think we were not prepared to design a curriculum that is based on outcomes and standards.....we needed more observations in schools....observation of teachers who teach mathematics, science and how to deal with mathematics and science concepts especially when teaching them to children at this age...how to teach phonics and reading... I think if we studied some courses at the college that prepare us to teach mathematics and science we wouldn't face all these problems that we face

now....We can't ask the cooperative teacher to train us to teach mathematics and science content that is sometimes contains many new concepts... or on how to use mathematics and science terminologies... she teaches six periods every day she has no time...I observe her teaching.....but this is not enough...to solve this problem I was advised by my cooperative teacher to use Arabic when I teach mathematical and scientific concepts.]

2. Knowledge of Syntactic Structure: The study findings revealed that the UAEU English pre-service teachers couldn't explain to their students how certain mathematical rules are based on established facts. Which means that the UAEU English pre-service teachers were capable of telling students some mathematical rules, but failed to explain why a particular mathematical fact is warranted. In addition, the UAEU English pre-service teachers couldn't explain to their students how they can make use of some of the mathematical rules they study in class in their real life. Three of the UAEU English pre-service teachers considered questions directed to them by their students in mathematics and science a real challenge. Hessa reported that her first grade students kept asking her about the justifications of writing measurement units in certain ways and admitted her inability to answer her students' unexpected questions. She expressed her frustration when she couldn't answer some of her students' questions. The following extracted quote depicts Hessa's problems in handling her students' unexpected questions:

Hessa: [For me it was difficult to teach students some mathematical facts, for example, I have to help my students explore the concept of space.....I teach them some measurement concepts like the centimetre square, unfortunately they asked me some difficult questions that I can't answer. For example they ask why should we write 2 at the top of the cm. They keep asking me why they should write it at the top.....I couldn't answer most of their questions.]

Hessa illustrated her perspective and how she believed she could manage to solve the problem when she talked about the difficulties she faced when she taught science. Here is another example of what Hessa said:

Hessa: [Science is more difficult because you have to explore topics in depth..... I know that they have learnt about some topics in KG like living things and non living things, parts of the body, surface ... Now I am teaching some of these topics but in depth....I usually use Arabic when I teach mathematics and science...I first explain in Arabic then in English because this helps students understand which will enable them to answer my questions and at the same time in this way I can avoid being targeted with questions to which I have no answers.]

b) Teaching English Language: When it comes to teaching the four language skills, the five UAE English pre-service teachers admitted that their coursework have proven to be the most beneficial to them in the classroom. Hessa spoke of how the university coursework focused on instructional approaches which were of great practical use. Hessa mentioned some of the approaches that she studied at the university which helped her during her field experience when she taught English. The following quotation depicted this point which was made by Hessa:

Hessa: [I go back to my courses' textbooks and notes....I read again about the right steps of teaching reading, listening, writing and speaking... I use the information I studied because it is not easy to teach the four skills to this grade.....Teaching English is not easy as I thought, it is really difficult....of course I don't use all what I studied in the college in my teaching... I studied the deductive approach and the inductive approach and they helped me a lot when I taught English and science...I also learned how to keep all students engaged in learning in an English class through the use of games and active learning strategies.]

Maha indicated that before the practicum, she had thought that English teachers' work would be very easy and simple and teaching English to young learners will be fun. However, through the practicum experiences, she came to realize the complexities involved in real teaching especially when she started to teach phonics. She struggled with how to phrase her wording on how she found it difficult to teach phonics to young learners and how she was not yet comfortable with this experience:

Maha: [I found it difficult to teach students in this age letters and sounds, they still have problems in attaching letters to sounds ...I think it is a challenge to me to reach all students ... I use many strategies and classroom activities like games

but I found teaching phonics really challenging. I thought it would be easy.....I usually seek the help of the cooperative teacher.]

II. Knowledge of the Curriculum:

The UAEU English pre-service teachers struggled with three field experience challenges directly related to curricular knowledge: 1) Terminology related to curricular reform; 2) The construction of curriculum; and 3) Curricular integration. The following section presents the pre-service teachers' dilemma.

a) Terminology Related To Curricular Reform: Some concepts related to curricular reform were considered new to the UAEU English pre-service teachers such as "strands", "standards" "indicators" and "outcomes". It was not easy for the UAEU English pre-service teachers to gain a clear understanding of the idea of "standards" and the differences between "outcomes" and "objectives" even though they were engaged in discussions about standards, outcomes and objectives in the "capstone course" which is offered to them concurrently with the field experience. Fatima explained how she found it difficult to understand the new terminologies and to cope with all the changes related to curricular reform, here is what she said:

Fatima: [The idea of standards is new to us and I didn't know what the standards are or what they mean, it was also difficult for me to differentiate between objectives and outcomes, for me they looked the same…in the capstone course at the college our professor tried hard to explain what standards mean and he told us about ADEC curricular reform and some of the terms used like integrated curriculum for example ….I understand but it takes time to cope with all these changes…capstone classes are not enough ….two days ago my supervisor read my lesson plan and told me that I mixed between objectives and outcomes.]

Aisha provided a specific experience of how she tried hard to understand ADEC's standards and how to match standards with the intended outcomes and the appropriate activities. The following extract from Aisha illustrated her perplexity:

Aisha: [But the problem is that it is not easy to know what each word like "standards" or "outcomes" mean and how to use them....I read ADEC document, I went through the standards of different grades ... sometime this helped me in choosing activities but most of the time it did not.... We also need to know how to design classroom activities and choose the right outcomes that go with the prescribed standards.]

Feeling lost with a standard based and outcome based curriculum was the main concern for the UAEU English pre-service teachers. While some of the UAEU English pre-service teachers were trying hard to learn how to deal with a standard based curriculum and understand the rationale behind standards, all of them were not sure how to teach without a specific curriculum guide. They all mentioned that they were not prepared to do so and requested a specific curriculum guide to help them identify when mathematical and scientific concepts should be addressed and how they are taught. In addition some of them preferred to have some types of practical support when it comes to curriculum planning. Remarking on how a detailed teacher's guide would enable English pre-service teachers to teach mathematics and science, Aisha's call for having a mandated curriculum is reflected in the following quote:

Aisha: [We have some ADEC prescribed standards and we have to find out by ourselves the texts and activities that meet these standards.... we were not prepared to do that in the college and we have no experience.....we even don't have a teacher guide to follow . The teacher's guide tells teacher what to do step by step...if we have teachers guides they will help us for sure.]

Even though some cooperative teachers offered some guides on how to design activities that match ADEC's standards, the UAEU English pre-service teachers felt that this help didn't assist them to discern what standards are really about. Fatima for example, found that the directions given to her by her cooperative teacher of how to access ADEC standards and grade level outcomes documents on ADEC's website portal didn't considerably help her. Fatima illustrated the nonexistence of guidance in the following quote:

Fatima: [There is no specific curriculum...My cooperative teacher showed how to access to ADEC website portal to download and read the ADEC documents about the standards and the outcomes... she also tried to explain what standards are but that did not help me a lot...I read some of the ADEC standards and outcomes...but these documents do not tell us how to teach or what to do to achieve the outcomes.]

During the interview the UAEU English pre-service teachers sometimes attached different and conflicting meanings to some terms. When asked, two UAEU English pre-service teachers, Aisha and Fatima, couldn't distinguish between objectives and outcomes and Aisha believed that a standard means "a vision". Thus, more concrete guidelines for how to understand and implement some concepts related to curriculum knowledge were urgently needed, since good knowledge of curriculum terminologies would enable the UAEU English pre-service teachers to design learning experiences that matches the standards and the expected outcomes.

b) Construction of Curriculum: The results implied that the UAEU English pre-service teachers were required under the umbrella of ADEC curricular reform to work as designers of knowledge and selectors of curriculum materials but, they encountered some problems related to designing or selecting the appropriate materials and the negative impacts overweighed the positive ones. The UAEU English pre-service teachers felt lost when designing curriculum; they felt it was difficult to get access to the right materials and resources. Amna expressed her feelings towards the lack of curriculum. The bewilderment of lack of curriculum is reflected on Amna's words as follows:

Amna: [One of the most challenging issues is the curriculum .....we don't have a specific curriculum.....I felt lost; I don't know how to design lessons, find activities and materials that suit my students' levels.]

Fatima expressed her disappointment regarding the time she had to spend for preparing materials that most of the time do not match the intended goals:

Fatima: [It is very difficult....I didn't think it will take me this too much time to make the curriculum ....I sometimes prepare materials that don't match the intended lesson.]

Based on The UAEU English pre-service teachers interviews, the UAEU English pre-service teachers reflected on the importance of having a ready-made curriculum with appropriate materials and resources and were frustrated by their inability to take the right decisions regarding the construction of mathematics and science curricular materials. They emphasized that this problem negatively affected their teaching of both subjects. Additionally, the UAEU English pre-service teachers believed that textbooks would facilitate the implementation of the curriculum. Furthermore, they believe that textbooks would serve as guidance for planning, and for developing materials. The UAEU English pre-service teachers indicated that they could handle English without textbooks whereas they needed textbooks for understanding mathematics and science curricular. Fatima recognized the importance of having a specific curriculum and textbooks. She emphasized the need of having a specific curriculum and textbooks as follows:

Fatima: [We still do not have specific curriculum for English …designing lessons and activities to teach English is not a big problem ….. But the problem is worse with mathematics and science because we don't have specific curriculum…and there is no textbooks to help.]

The problem of having no textbooks was partially solved in school "A" where Hessa and Amna were practicing teaching. Similar opinions were expressed by Hessa and Amna. Hessa for example mentioned:

Hessa: [ADEC has recently provided us with six books for mathematics and six books for science. These books are not meant to be considered students' text books but they can be used by teachers and students in class from time to time. Students can find simple meanings of some new words illustrated by pictures…etc. … but we still do not have an English language curriculum ….but the outcomes of teaching English are very clear and it is easy for us to prepare good materials, there are also many resources available in the internet ….. mathematics and science outcomes are not so clear to us and we can't decide whether the internet materials are appropriate or not… we were happy to receive ADEC books, though we were about to finish up

with our practicum…if these books were sent earlier they would be of great help….at least they would serve as guides.]

It can be inferred then that textbooks were considered a main source that would enable pre-service teachers to plan for the lessons and more importantly getting the appropriate curriculum materials. Without textbooks, the UAEU English pre-service teachers felt that they needed more help in designing curriculum materials and getting the most appropriate resources from the internet.

In addition, the UAEU English pre-service teachers reflected on how they struggled to take the right decisions regarding mathematics and science curricular planning and materials, since they were still in the initial process of developing their professional knowledge. Hessa talked about how her lack of experience as a pre-service teacher affected her ability to plan and to create appropriate materials. The following extracted quote depicts Hessa's view:

Hessa: [I still have a problem because of the lack of curriculum...I find it very difficult and time consuming to prepare materials and design the curriculum especially for mathematics and science ... I also have problems with planning.... I have no experience....I am still learning to teach real young students in a real classroom....This is not like teaching in the college... it is completely a different experience.]

This idea of the lacking the experience was also supported by the other four UAEU English pre-service teachers. For example, Amna expressed that it is time consuming to spend a lot of time looking for the appropriate activities and materials. She also indicated that she lacked the experience of choosing the most suitable materials and activities for the grade level she taught. She commented on the problems she faced when designing science activities:

Amna: [I face the problems of finding the right activities to teach science. I try to make the activities by myself or search the internet...but the problem is that I am not always sure that these activities match the curriculum and the standards and the grade level I teach ... It is a matter of experience....I also spend a very long stressful time looking for activities.]

c) Curricular Integration: One of the major challenges that remained unsolved for the UAEU English pre-service teachers was their problems to recognize how subjects are integrated and developed. Although ADEC new curriculum innovation enforces the integrated approach and the integration of concepts across disciplines, the UAEU English pre service teachers' taught the three subjects without integrating them. The UAEU English pre-service teachers had many opportunities to devote their teaching of concepts across two or three subjects, yet they limited themselves on the subject they taught. This lack of knowledge about curriculum integration was manifested in Fatima's words:

Fatima: [I know that I should integrate the three subjects...I heard about the idea of integration when I was sitting with the teachers in their room and they were talking about how to integrate English, science, music and technology in one class period....I had the chance to do that so many times, like I could ask students to sing a song about animals like "Old MacDonald's had a farm song" when I teach about animals as living things and I can ask about the number of animals in the picture to integrate English, science, music and mathematics all together...But thinking about integration is not easy because I still have many problems that I face when I teach each subject separately... I have problems when I teach science...and other problems when I teach mathematics so I concentrate on solving these problems first and then when I get the experience I will integrate the subjects.]

Additionally, the interview data tend to reflect some uncertainties about implementing the integrated curriculum. The UAEU English pre-service teachers' responses to interview questions about the integrated curriculum reflected a lack of knowledge of the difference between an integrated and a traditional curriculum. Aisha was critical towards the implementation of the integrated curriculum by UAEU pre-service teachers who themselves lack the knowledge of teaching science and mathematics as separate subjects. She highlighted the problem of lacking the knowledge of integrated approach when she said:

Aisha: [I do not think that I understand the idea of integration that you are asking me about.... I don't know what integration is...it is the first time I hear this word... I usually encounter so many problems when I teach mathematics and science as separate subjects....]

Moreover, the UAEU English pre-service teachers didn't understand the principles, the assumptions and the procedures of the integrated curriculum. Maha tried to explore what integration entails as she said:

Maha: [The idea of integration is new to us. Perhaps we had studied how to link the lessons to students' lives. But integration across different subjects....why should I do that?! Perhaps it is important but first we should know how to plan for it and how to prepare activities and materials... I remember one day my cooperative teacher told me to ask students about shapes and numbers as I was telling them a story about animals in an English language class....Is that what you mean by integration? I think we should be trained on how to plan to integrate ideas across the three subjects that we teach.]

It is clear then that the UAEU English pre service teachers didn't understand the nature of certain aspects of an integrated curriculum, and felt that they were not given clear directions as they strived toward curricular integration implementation.

III. Making Connections between Academic Study and Field Experience

Three of the UAEU English pre-service teachers, Amna, Maha and Aisha believed that the field experience could enable them to link between their academic coursework and their field experience if they had more opportunities to observe teachers in schools, earlier before they started their field practicum. Theories about language and instruction they studied in their coursework could then be applied through authentic opportunities and they would have the chance to examine pedagogy in action. The following extracted quote depicts Amna's view about the number of observations they needed as pre-service teachers before starting their field authentic experience. To make her point clear Aman compared between the UAEU practicum program and the Higher Colleges of Technology practicum program. Amna said:

Amna: [We should start our field experience earlier ....we need to go weekly to observe teachers... The Higher Colleges of Technology (HCT) pre-service teachers usually start their teaching practicum earlier than us and they benefit a lot from that ...we should start teaching phonics to grades 1 and 2 in natural class settings not at the clinical practice at the university.....practicing teaching at university classes is different from teaching it in real schools....]

Maha 's beliefs about the earlier observations matched those of Amna's. Maha indicated that the UAEU Teacher Education Program should prepare teacher candidates adequately in terms of the number of observations they should make before the practical "hands on" aspect of their teaching practicum. She talked about the importance of early field experience and she explained how she found it difficult to apply the theories she studied in the university coursework in real classroom settings. the following is an extract of how Maha experienced the gap between theory and practice as follows:

Maha: [It is not the use of vocabulary list that we memorized at the college that are related to phonics or phonemic awareness...it is how we can use this in class with real students.....but I think we should start to go to school earlier...from the second year at the college. It was not easy for me to connect between the theories or the principles I studied about phonics and teaching phonics in real classroom settings. Teaching all students letters and sounds is challenging. You need to be patient because you do not know how these students learn... I can't think of theories when I teach in the classroom.]

Thus, the struggle to make connections between field experience and academic study of English mathematics and science was apparently a challenge the UAEU English pre-service teachers faced during their field experience. They were challenged on how to make the appropriate transfer in real classroom situations.

Findings Gleaned from the Interview (Research Question #1)

When the UAEU English pre-service teachers were asked about their views on the challenges pertinent to the requirements of ADEC curricular reform, they indicated the following:

1. The UAEU English pre-service teachers' experience with mathematics and science teaching was perceived as "negative". The UAEU English pre-service teachers viewed themselves as unqualified to discern what teaching of mathematics and science is really about.

2. Although the UAEU English pre-service teachers viewed themselves as competent in teaching English, they felt that bridging the gap between academic preparation and the filed experience was a thorniest issue for them and they believed that earlier field experiences would help improve their teaching practices.

3. The UAEU English pre-service teachers did not show adequate knowledge of curriculum integration. They were not prepared to teach in settings that based on curriculum integration.

4. The UAEU English pre-service teachers viewed themselves as unprepared to meet ADEC curriculum reform requirements. This includes knowledge of curriculum design, knowledge of curriculum integration and the use of appropriate classroom materials. It also entails the adequate understanding of what standards and outcomes are about.

Q2: To what extent are Pre-service Teachers able to overcome these challenges?

There were lots of challenges reported by the UAEU English pre-service teachers that were related to teaching English, mathematics and science. These challenges ranged from struggling to teach and construct mathematics and science curricular to a problem in understanding what a standard- based curriculum, outcome based curriculum and an integrated curriculum entailed. Data from the questionnaire formed a frame about the extent to which the UAEU English pre-service teachers were able to overcome some of these challenges mainly challenges related to teaching mathematics and science.

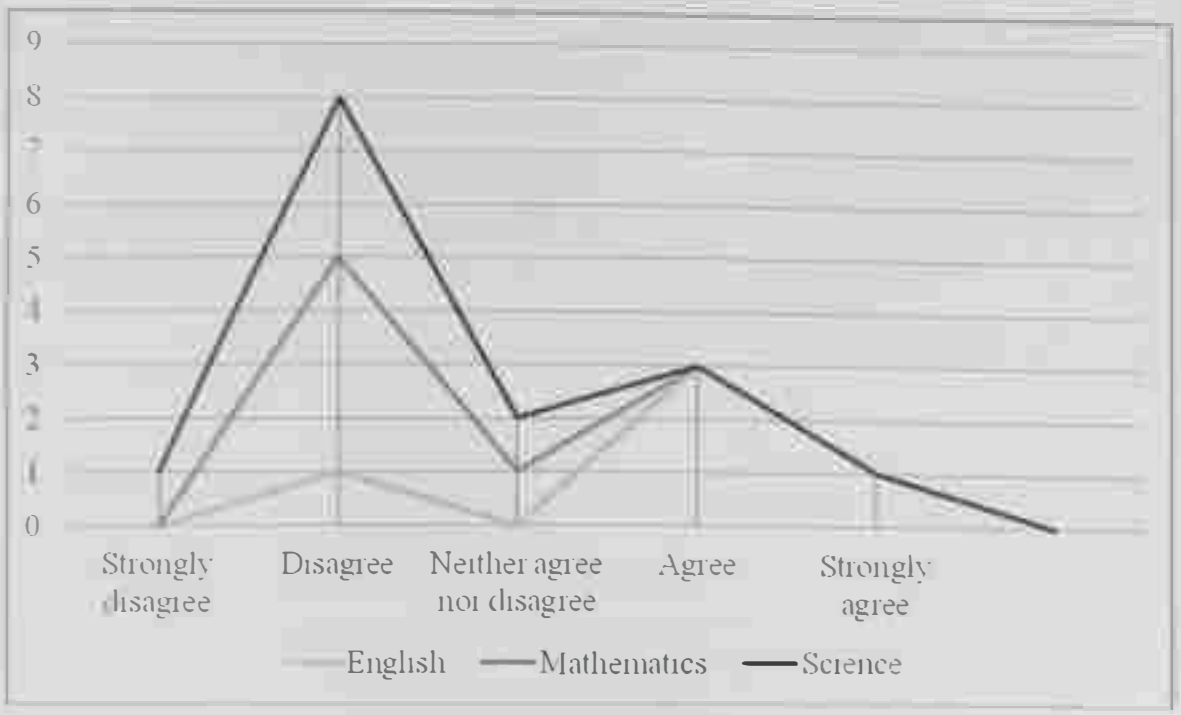
***Teaching English, Mathematics and Science*:**

a) Knowledge of subject matter: The main problems encountered by the UAEU English pre-service teachers were related to teaching mathematics and science. When faced with a breakdown in communication and in order to clear their students' misunderstanding of

mathematics and science, the UAEU English pre-service teachers resort to Arabic (L1) to explain certain concepts and to solve the problems they faced when teaching the two subjects. In her written response to questionnaire questions, Aisha's cooperative teachers, Mrs. Blaine, mentioned that she advised her pre-service teacher to use Arabic when explaining science and mathematics to be able to reach her students .She also mentioned that one of Aisha's strengths was her ability to translate into Arabic to clarify understanding and to communicate different concepts to her students, yet she has found Aisha was in need to learn about curriculum development appropriate to the grade level she teaches (i.e. units planning) and she should be provided by an updated ADEC curriculum.

Furthermore, The cooperative teacher's responses to questionnaire items indicated that the UAEU English pre-service teachers had adequate knowledge of subject matter of English compared to both their subject matter knowledge of science and mathematics (See line graph1). Four Cooperative teachers' indicated that the UAEU English pre service teachers lacked the subject matter knowledge of mathematics and three of them indicated that the UAEU English pre service teachers' lacked the subject matter knowledge of science, though they were able to overcome some of the problems related to subject matter knowledge when they got some help from their cooperative teachers.

Line Graph 1: Demonstrating Knowledge of Subject Matter



Furthermore, in response to the open ended question about the problems the UAEU English pre-service teachers' encountered when teaching mathematics and science, Hessa's cooperative teacher, Mrs. Sally, wrote that although Hessa was able, after getting some help and guidance to acquire knowledge about how to teach time and place value in mathematics and cultural things related to animals and landscape in science yet she was still in need of how to do experiments, apply hands on work and teach simple mathematical operations such as addition and subtraction. Mrs. Sally also mentioned that Hessa was able to overcome some of the problems when teaching mathematics and science when she used Arabic to explain some concepts. Fatima's cooperative teacher, Mrs Leonda, wrote that after getting enough help and support, Fatima was able to use the appropriate materials and that she was able to acquire knowledge related to the use of manipulative to enforce mathematical concepts.

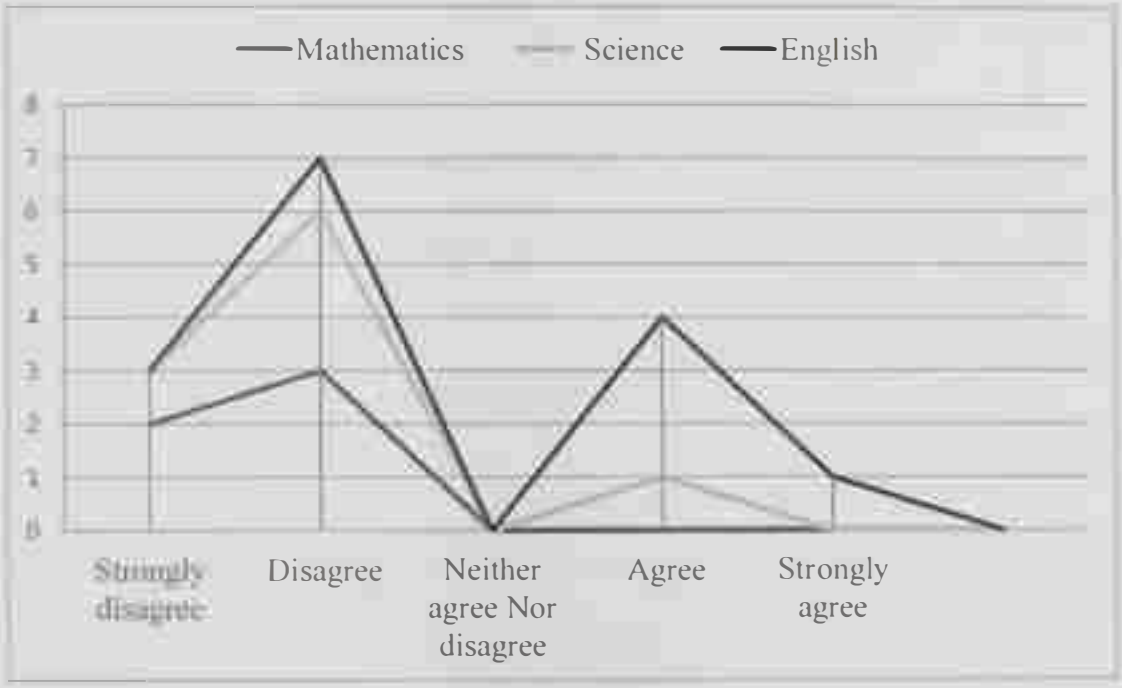
b) Knowledge of curriculum: The cooperative teachers' responses to questionnaire items indicated that the UAEU English pre-service teachers had inadequate knowledge of mathematics and science curricula (See table 3).

Table 3: Pre-service Teachers Knowledge of Science and Mathematics Curricula

		Frequency	Percent	Valid Percent	Cumulative Percent	Cronbach's Alpha
Valid	Strongly disagree	8	53.3	53.3	.600	600
	Disagree	7	46.7	46.7	100.0	
	Total	15	100.0	100.0		

Yet, the results indicated that the UAEU English pre-service teachers had adequate knowledge of English curriculum compared to their knowledge of science and mathematics (See Line Graph 2).

Line Graph 2: Demonstrating Knowledge of Curriculum



Furthermore, all cooperative teachers' responses about the UAEU English pre-service teachers' knowledge of curriculum indicated that the UAEU English pre-service teachers

needed to know how to create an integrated unit of instruction when teaching the three subjects (See table 4).

Table 4: Pre-service teacher preparation to teach the integrated curriculum

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	60.0	60.0	.600
	Neither agree nor disagree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

The cooperative teachers indicated that the UAEU English pre-service teachers needed to know how to structure learning materials to provide significant learning experience (See table 5). Moreover in their written responses to open ended questions the cooperative teachers indicated that their pre-service teachers needed to know how to create multiple levels of work for different learning outcomes, how to utilize cooperative learning and small group strategies and needed to learn about differentiated centres.

Table 5: Pre- service teacher structures learning materials to develop significant learning experiences

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	60.0	60.0	60.0
	Neither agree nor disagree	2	40.0	40.0	100.0
	Total	5	100.0	100.0	

Findings Gleaned from the Questionnaire (Research Question #2)

Five significant findings emerged from the cooperative teachers' responses to the questionnaire. The questionnaire was intended to answer the second research question regarding the challenges the UAEU English pre-service teachers were able to overcome. Cooperative teachers' responses indicated the following:

1. The UAEU English pre-service teachers used Arabic (L1) to explain certain concepts and to solve problems they faced when teaching mathematics and science.

2. The UAEU English pre-service teachers needed to acquire the subject-matter knowledge of mathematics and science. They didn't demonstrate adequate subject matter knowledge of science and mathematics. However when they got help and support from their cooperative teachers, the UAEU English pre-service teachers demonstrated good ability to teach some mathematics and science topics to some extent.

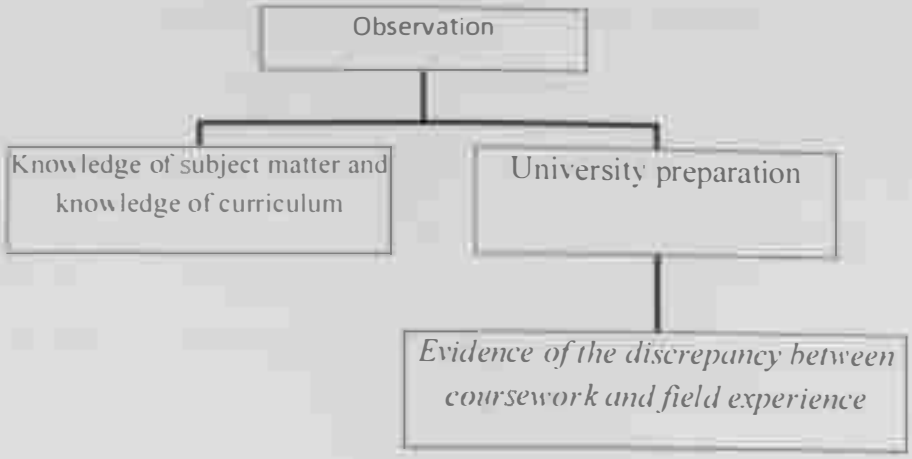
3. The UAEU English pre-service teachers needed adequate preparations to enable them to create multiple levels of work for different learning outcomes.

4. The UAEU English pre-service teachers were unprepared to teach the integrated curriculum and needed to know how to integrate concepts when teaching English, mathematics and science.

Q 3: Are UAEU English pre-service teachers prepared to teach within the ADEC curricular reform context?

Data based on observation are classified under two main categories (1)Knowledge of subject matter and knowledge of curriculum and: (2) University preparation (See diagram 2).

Diagram 2: Observation main categories



1. Knowledge of subject matter and knowledge of curriculum of English, Mathematics and Science:

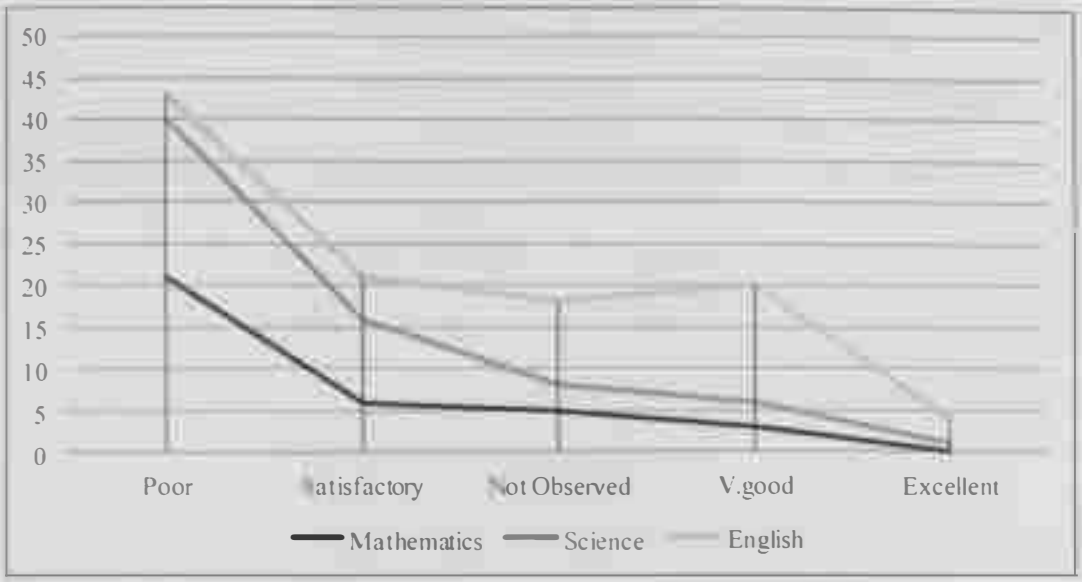
The subject support specialists' responses to observation checklist items yielded important data related to pre-service teachers' challenges they had to deal with in relation to subject matter knowledge and curriculum knowledge of mathematics and science.

The three subject support specialists found that the UAEU English pre-service teachers had good instructional competence that involves communication skills as well as some course construction skills. For example, the three subject support specialists reported that the UAEU English pre-service teachers were able to communicate to their students what should be learned, they were able to select and use the available and appropriate materials and resources and they were able to reflect on the challenges they faced by evaluating the university courses teaching materials and curriculum, hence, they tried hard to overcome the challenges they encountered during their field experience.

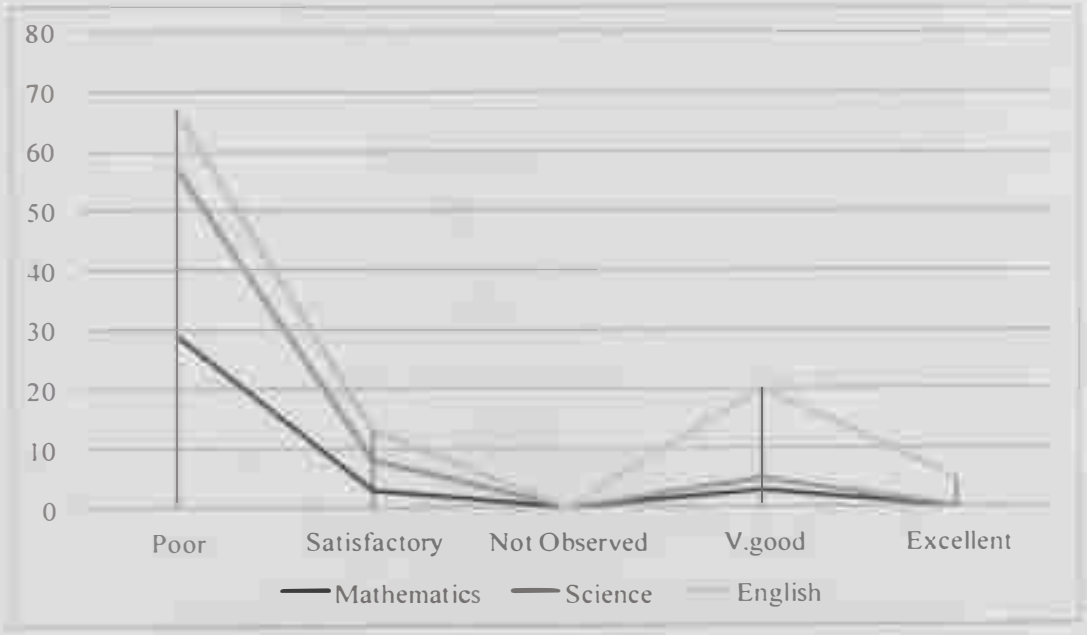
On the other hand, from the point of view of mathematics and science subject support specialists, the UAEU English pre-service teachers didn't demonstrate good knowledge of subject matter or knowledge of curriculum of mathematics and science. They believed that this insufficient knowledge of subject matter and knowledge of curriculum of mathematics

and science created a challenge for The UAEU English pre-service teachers when trying to explain scientific and mathematical concepts to their students. The line graphs below show that the UAEU English pre-service teachers had adequate subject matter knowledge and curriculum knowledge of English compared to their subject matter knowledge and curriculum knowledge of both mathematics and science. (See Line Graphs 3&4).

Line Graph 3: Demonstrating Knowledge of Subject Matter



Line Graph 4: Demonstrating Knowledge of Curriculum



The subject support specialists of mathematics, science pointed out that the pre-service teachers were not able to use English as a medium of instruction to teach mathematical and scientific concepts. In addition, they indicated that the pre-service teachers were in need of support and guidance to teach mathematics and science curricula.

For the three subject support specialists, knowledge of subject matter that includes general as well as specific knowledge is essential to make the content meaningful and relevant. In their written responses to open ended questions, the subject support specialists of mathematics and science indicated that the main problems encountered by all the UAEU English pre service teachers reflected the need for more preparation that could enhance their ability to explain concepts in mathematics and science and hence develop their knowledge of mathematics and science. They believed that the university undergraduate program did not prepare the pre-service teachers adequately to face the demands of teaching mathematics and science in a real classroom.

II. University preparation and the discrepancy between coursework and field experience:

The subject support specialists of mathematics, science and English believed that the UAEU English pre-service program aligns well with some principles of filed experience, but falls short of conforming to some others related to the ADEC curricular reform.

The subject support specialists of English, mathematics and science were greatly satisfied with the UAEU English pre-service teachers' preparation regarding knowledge of pedagogy and theories. Yet they believed that the UAEU English pre-service teachers were not given the opportunity for classroom practice before teaching in a real situation. They indicated that the UAEU English pre-service teachers were frustrated when they had problems when a part of their lesson fell short of the intended outcomes. Furthermore, the discrepancy between teaching education program and the filed experience emerged in the practicum activities. The

subject support specialists of mathematics, science and English believed that there was a discrepancy between the curricular reform requirements and the university course methods or between the coursework and what the UAEU English pre-service teachers would do in their teaching practicum.

In their written responses to open ended questions both the subject support specialists of mathematics and science indicated that the UAEU English pre-service teachers didn't demonstrate good knowledge of the curriculum of mathematics and science which indicated that they didn't receive the appropriate preparation by their university to teach the two subjects. They both suggested that supportive programmes for the UAEU English pre-service teachers should be geared to students' major field of study. The following is an extract of what the subject support specialist of science wrote:

> [The UAEU English pre-service teachers didn't demonstrate good understanding of knowledge of curriculum which includes planning, implementation and assessing students learning and more importantly how to connect theories they had studied to practice. I believe that teacher education programs are in a position to offer additional help and support to assist pre-service teachers as they embark on their journey of teaching within a major curriculum reform.]

The three subject support specialists believed that the UAEU English pre-service teachers needed to get sufficient subject matter knowledge of the subjects they taught. They also believed that the UAEU English pre-service teachers needed ample opportunities regarding their practical experiences to help them bridge theory to practice and to be able to meet the requirements of ADEC curricular reform. The following is an extract of what the subject support specialist of mathematics wrote:

> [The UAEU English pre-service teachers should be provided with substantive and rich opportunities to increase their perceptions about their content and subject-matter knowledge of teaching mathematics...they needed to refine their teaching and assessment practices through appropriate planning.... their sense of confidence of teaching mathematics should be transferred from university course work preparation before they make this transition to real teaching in their practicum.]

The subject support specialist of English pointed out that the UAEU English pre-service teachers needed more opportunities to observe high quality teaching. The following is another extract of what the subject support specialist of English wrote:

> [The UAEU English pre-service teachers found teaching students how the letters of the alphabet, singly or in combination, represent the sounds of spoken language challenging..... I believe that the UAEU English pre-service teachers need more opportunities to observe high- quality phonics teaching.]

The subject support specialist of English reported that Maha, for example, showed good knowledge of methodologies and teaching approaches which indicates how adequately she was prepared by her university. She could talk about different teaching and learning approaches in teaching English but, she failed to apply them in class (i.e. how to teach phonics).

Findings Gleaned from the Observation (Research Question #3)

The observation checklist responses explicitly answered the third research question regarding the UAEU English pre-service teachers' preparation to teach within a major curricular reform. The responses of the subject support specialists of English, mathematics and science to this research question emphasized the following:

1. The UAEU English pre-service teachers demonstrated adequate knowledge of pedagogy and theories that indicate adequate university preparation; however they lacked adequate knowledge of subject matter and knowledge of curriculum of both science and mathematics. They were unprepared to teach mathematics and science to young learners.
2. The UAEU English pre-service teachers encountered some problems when tried to link between what they learned in their academic study and their field experience (i.e. teaching phonics).

Q4: What major issues pertinent to the challenges do the UAEU English pre-service teachers face during their field experience within ADEC curricular reform?

By analyzing the results of the interview, the questionnaire and the observation the fourth research question was approached and the views of the UAEU English pre-service teachers, the cooperative teachers and the subject support specialists of English, mathematics and science were triangulated. The interview, the questionnaire, and the observation provided data about the challenges the UAEU English pre-service teachers faced during their field experience, the challenges they were able to overcome, and the extent to which they were prepared to meet the requirements of ADEC curricular reform. To show how the findings of each research question are related, the researcher developed a visual model to display the findings (Corbin & Strauss, 2008). This visual model is in the form of diagrams that explain the similarities among the results set and helped to triangulate the data (see diagrams3,4,5&6). Triangulation involves using different data sources to allow the researcher to confirm a finding across more than one method.

Diagram 3: Results gleaned from the Interview

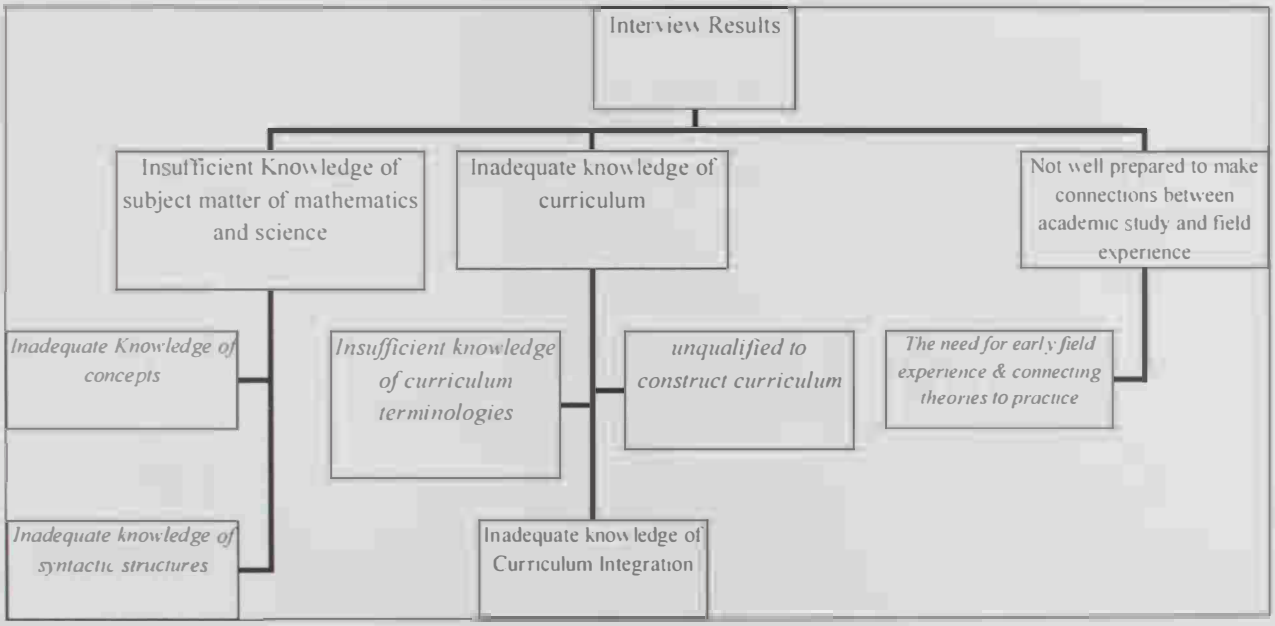


Diagram 4: Results gleaned from the questionnaire

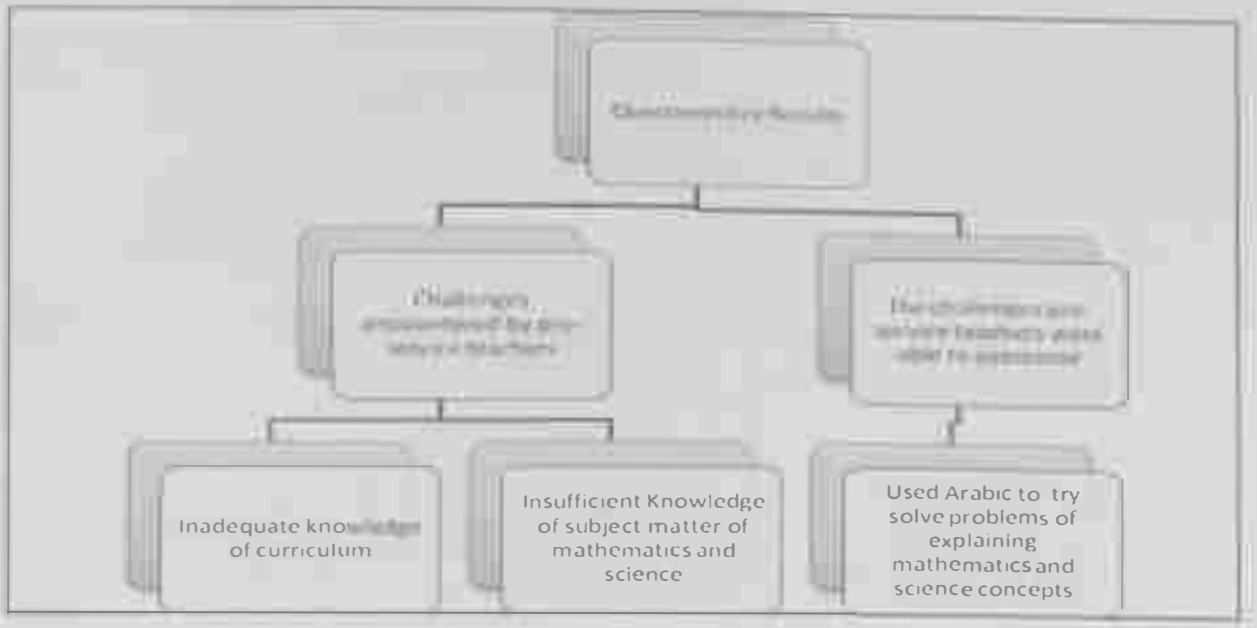


Diagram5: Results gleaned from the observation checklist

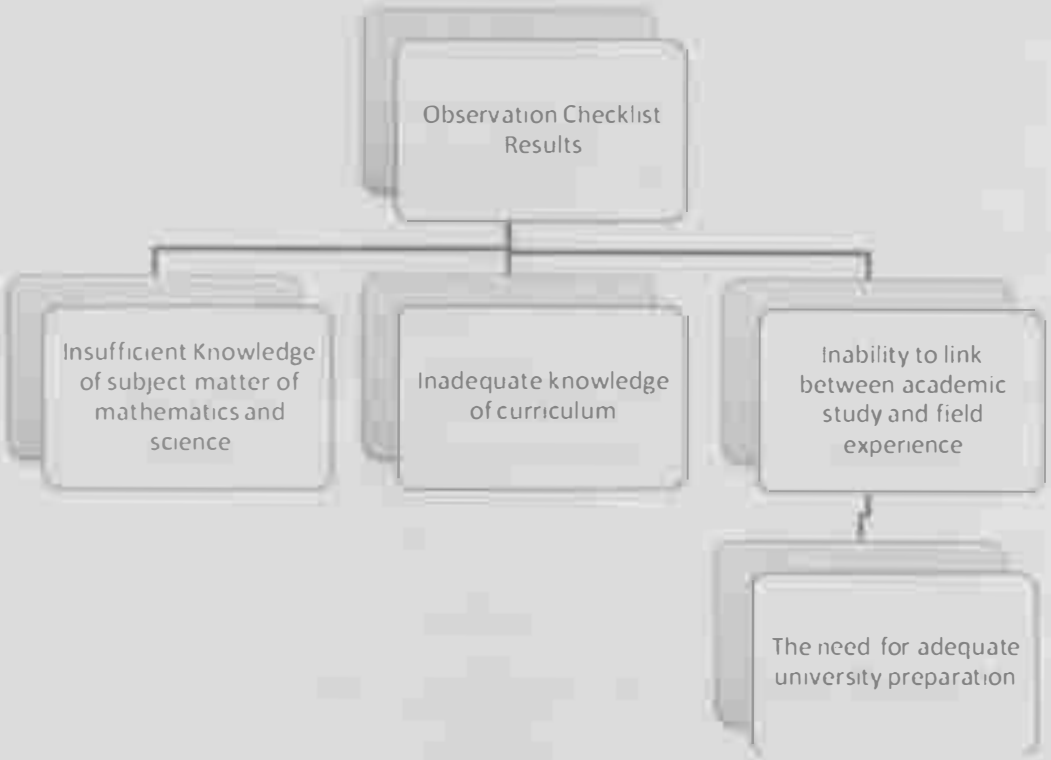
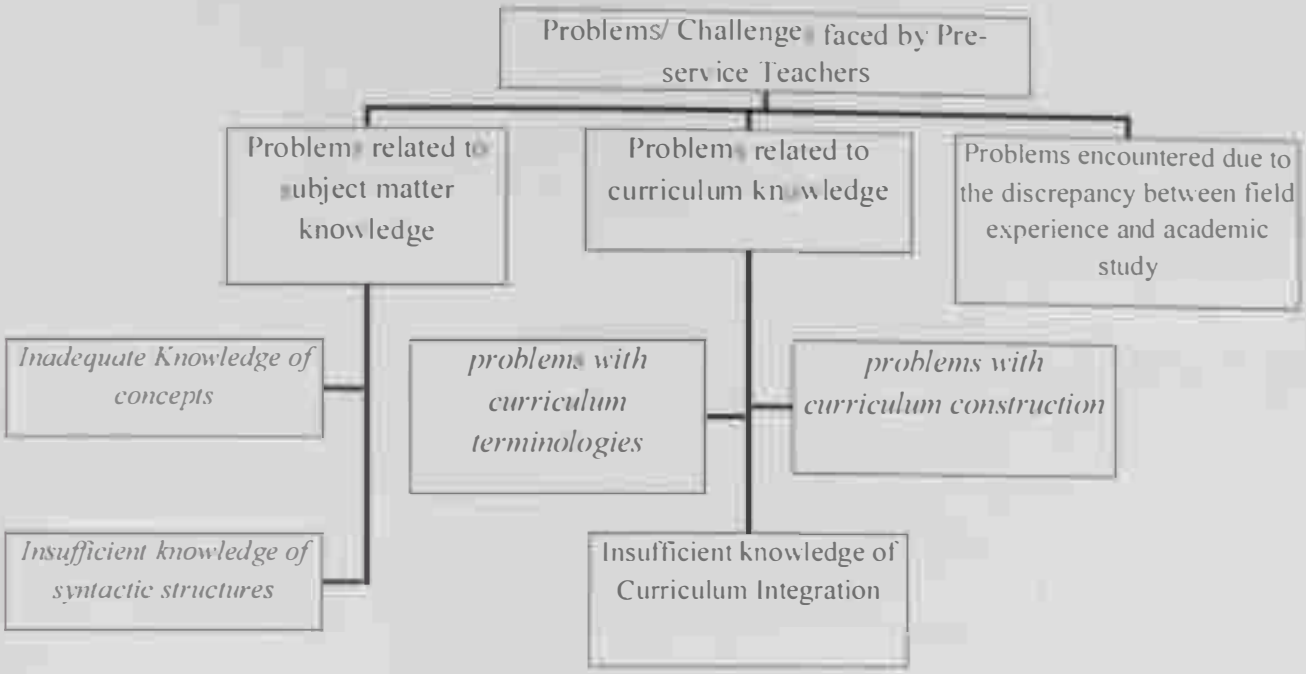


Diagram 6: Major results gleaned from the interview, the questionnaire and the observation checklist



By corroborating and reconfirming similar patterns found throughout various types of data, the findings gleaned from the interview, the questionnaire and the observation showed that the UAEU English pre-service teachers demonstrated adequate knowledge of pedagogy and theories that indicate adequate university preparation. In addition, the UAEU English pre-service teachers viewed themselves as competent in teaching English. However, the findings also revealed that the UAEU English pre-service teachers viewed themselves as unqualified to discern what teaching of mathematics and science is really about. The UAEU English pre-service teachers needed adequate knowledge of subject matter and knowledge of the curriculum that would enable them to create an integrated unit of instruction that is both theoretically sound as well as practically useful. Moreover, the UAEU English pre-service teachers encountered some problems when tried to link between what they learned in their academic study and their field experience. To solve some of the challenges the UAEU English pre-service teachers encountered during their field experience, the UAEU English pre-service

teachers either resorted to Arabic to explain certain concepts to their students or they sought the help of their cooperative teachers.

To sum up, several issues that are pertinent to the challenges the UAEU English pre-service teachers faced during their field experience within ADEC curricular reform emerged from the interview, the questionnaire and the observation as follows:

1. Most of the UAEU English pre-service teachers' challenges were centred on knowledge of subject matter of mathematics and science and knowledge of curricular. They were grappled with knowledge of concepts of science and mathematics and knowledge of syntactic structure and they expressed their reservations about dealing with curricular reform concepts, teaching, integrating and constructing curricular.
2. The discrepancy between the university coursework and the UAEU English pre-service teachers' field experience was a major important issue that emerged from analysis of the interview, the questionnaire and the observation results.

Summary

In this chapter, the research questions were triangulated. The high degree of consistency between the results of the interview, the questionnaire and the observation in this research provided evidence for the validity of the research findings. The interview analysis identified three major themes that describe the challenges the UAEU English pre-service teachers faced during their field experience within a major curricular reform: first, knowledge of subject matter of mathematics and science; second, knowledge of the curriculum and; third, making link between course work and field experience. The questionnaire analysis provided data about the challenges the UAEU English pre-service teachers were able to overcome and those remained unsolved.

The challenges presented were mainly related to knowledge of mathematics and science; knowledge of the curriculum and the application of the integrated curriculum. The topic of the UAEU English pre-service teachers' preparation was the issue presented by the observation findings to answer the third research question. The observation checklist analysis provided data about the UAEU English pre-service teachers' preparation to meet the curricular reform requirements. Two major themes were identified: teaching science and mathematics to young learners and the discrepancy between coursework and field experience. The consistency of the interview, the questionnaire and the observation data provided strong evidence for the validity of the instruments and results of this research. It can be inferred then that challenges related to teaching mathematics and science, knowledge of curriculum and the gap between university preparation and field experience were the most pertinent issues that emerged from the interview, the questionnaire and the observation. The themes provided a means to interpret and explain results.

CHAPTER FIVE

Discussion

One of the most important phases in teacher education is the learning to teach during field experience in which pre-service teachers have different opportunities to face the challenges and demands of the teaching profession (Caires & Almeida 2007; Cochran-Smith, 2008; Hoffman, 2004; Le Cornu, 2005; Risko et al, 2008). This study endorse a grounded theory as the theoretical lens through which the researcher traced the challenges encountered by pre-service teachers within a major curriculum reform. A grounded theory approach was appropriate for this study because there is no theory that explains the pre-service teachers field experience challenges within a major curricular reform context.

The findings of the study revealed three major challenges that constrain pre-service teachers' field experience. These challenges can be summarised as: a) knowledge of subject matter of science and mathematics including knowledge of concepts and knowledge of syntactic structure; b) knowledge of curriculum including the pressures to enact curriculum reform concepts , the construction of curriculum materials and the application of curriculum integration; and c) the discrepancy between pre-service coursework and field experience requirements.

a) Knowledge of Subject Matter of English, Science and Mathematics

Results gleaned from the interview, the questionnaire and the observation checklist indicated that the UAEU English pre-service teachers demonstrated adequate knowledge of pedagogy and theories that indicate adequate university preparation. This result closely matches the results of Tairab's study (2008) where the focus was on the perceptions of pre-service science teachers of their preparedness to become effective teachers following their completion of their teacher education program. The overall view of the pre-service science teachers in

Tairab's study is largely one of satisfaction. Yet, although the UAEU English pre-service teachers had well-developed knowledge of a single academic discipline (English), they were not able to constitute subject matter knowledge in terms of multiple subjects (English, mathematics and science). In addition, understanding what is to be taught was a crucial challenge for the UAEU English pre-service teachers, and hence affected the way they taught mathematics and science, the way they selected instructional materials and resources, the way they provided definitions and explanations of mathematics and science concepts and the way they provided justifications to some mathematical facts and rules. Therefore, to meet the requirements of curricular reform the UAEU English pre-service teachers needed more preparation to teach mathematics and science to young learners. The UAEU English pre-service teachers needed a repertoire of science and mathematics teaching approaches and successful science and mathematics teaching models to be able to teach mathematics and science. In other words, the UAEU English pre-service teachers needed adequate subject matter knowledge of mathematics and science. Although some researchers like Strawhecker (2005), found that teachers' subject matter knowledge does not correlate with teachers' performance, pointing out that there is more to teaching than merely acquiring subject matter knowledge and theories, many researchers like Kosnic & Beck (2009) pointed out that a better understanding of subject matter can make a difference in pre-service teacher effectiveness and that deeper understanding of subject matter allows pre-service teachers to differentiate their instruction. Many researches in subject matter knowledge support this study finding. Researchers like fleer & Hardy (2001), Bybe (1987), Grant & Gillete (2006), Coldhaber & Brewer (2000), Monk (1994) and Ferguson & Womack (1993), found that in order to function in the role of a multi- subjects' teacher, pre-service teachers need knowledge of subject matter which is considered fundamental in delivering knowledge to students. The study results are also consistent with what Shulman (1986) and Grossman

(1988) ascertain of how the idea of subject matter knowledge and its pedagogical knowledge is more complex when a pre-service teacher had a number of subjects to teach.

More to the point, data collected from the pre-service teachers, the cooperative teachers and the subject support specialists revealed that the UAEU English pre-service teachers main problems with subject matter knowledge were centred around the two main pillars of subject matter knowledge, knowledge of concepts and knowledge of syntactic structure (Shulman, 1986; Kwo, 1996). The UAEU English pre-service teachers' lack of subject matter knowledge led to insufficient explanation of concepts and consequently the use of ineffective strategies to respond to unanticipated questions directed to them by their students. Shulman (1986) indicated the pre-service teachers' competence to explain science and mathematics concepts, depends mainly on how the pre-service teachers themselves understand the subject matter of the subjects they teach. This finding is in line of Schwab (1978) explanation of the knowledge teachers should acquire about how subjects are structured. Schwab indicated that teachers need to know that subjects are structured according to the ways in which their content was arranged and organized (substantive structures), or according to the accepted ways of adding that knowledge (syntactic structures). Thus, knowledge of mathematical rules for example requires pre-service teachers to be able to justify why they work. They should have the ability to choose appropriate tasks, provide definitions of concepts, give examples and use a range of teaching techniques. They should know about students' conceptions, misconceptions and the problems their students face in order to solve these problems effectively. In addition, the idea about the challenges encountered by pre-service teachers due to the lack of knowledge of syntactic structure is supported in literature by many researchers like Kwo (1996) who pointed out that some problems encountered by pre-service teachers are mainly connected to their syntactic structure knowledge such as responding to students' unexpected questions and challenging students to higher levels of learning.

However, the kind of subject matter knowledge pre-service teachers need to develop is complex since it requires pre-service teachers to make decisions about the construction of the curriculum and the teaching strategies. Therefore, pre-service teachers should be well equipped with the necessary knowledge and skills and clear understanding of the relationship between information and the concepts that help organize these information in a discipline. Yet, what exactly the pre-service teachers' need to know about the discipline-based subject matter they teach remains an area that should be deeply investigated.

In their attempt to resolve this dilemma, the UAEU English pre-service teachers resort to teaching of mathematics and science in a mixture of their mother tongue (Arabic) and the target language (English). They were advocated by their cooperative teachers to resort to their mother tongue Arabic (L1) when teaching mathematical and scientific concepts. Although some previous studies such as the one conducted by Bacherman (2007), found that teaching in the mother tongue does not hinder the acquisition or impede the development of the second language, the use of Arabic in a classroom where the language of instruction is English is inconsistent with ADEC reform. In addition, many researchers on language acquisition believe that the use of students' mother tongue in the classroom hinders second language acquisition. These researchers believe that consistent reliance on translation hinders language learners' development and discourages learners from using the target language (Hong, 2008). It could be inferred then that resorting to L1 was not the right solution for the problem and hence using English as a language of instruction to teach mathematical and scientific concepts and mastering the terminology of the subject specific content remained challenges for the UAEU English pre-service teachers that they didn't adequately overcome.

b) Knowledge of Curriculum

1. Terminology Related To Curricular Reform

In elementary schools, curriculum has become a prescribed set of academic standards that teachers have to cover through the whole academic year. Yet, the UAEU English pre-service teachers did not understand the rationale behind implementing a standard based and outcome based curriculum. They were grappled with the use of what they considered new curriculum terminology such as strands and standards . Likewise, they had problems to distinguish between outcomes and objectives. In addition, they expressed their perplexity of how to match standards with the intended outcomes and how to construct appropriate activities that serve the prescribed standard. Furthermore, the UAEU English pre-service teachers approached what looked like barriers to teach mathematics and science without having a specific curriculum guide. Thus, they requested a specific curriculum guide to help them identify when mathematical and scientific concepts should be addressed , how they are taught and how to design activities that match the prescribed standards.

Despite the help offered by some cooperative teachers to pre-service teachers to assist them in designing activities that match ADEC's standards; as well as the support given by their university instructor during the capstone course at the college, the UAEU English pre-service teachers felt that these help and support didn't help them to discern what standards are really about. It is clear then that more tangible guidelines for how to understand and implement some concepts related to curriculum knowledge is needed, since good knowledge of curriculum terminologies will enable the UAEU English pre-service teachers to design learning experiences that matches the standards and the expected outcomes.

2. Construction of Curriculum

The new reform added a new burden on the UAEU English pre-service teachers who had to face the problem of working as designers of knowledge and selectors of curriculum materials and who were aggravated by their inability to take the right decisions regarding the construction of mathematics and science curricular materials. Thus, the UAEU English pre-service teachers viewed textbooks as necessary resources that would help as guidelines for the content to be taught and the materials to be developed. To solve the problem the UAEU English pre-service teachers adopted their cooperative teachers' materials, took them as they were or looked for items in the internet and applied them. One outcome was likely having pre-service teachers who were highly dependent on their cooperative teachers; who were considered, as some researchers indicated in previous studies, as passive agents in the teaching environment (Goodman, 1986; Shulman, 1986; Zeichner & Tabachnick., 1981).

Another outcome was having pre-service teachers who struggled with curriculum planning and curriculum construction, or as Cheng (2001) pointed out who have to face uncertainties arising from the necessity to take up to new responsibilities in curriculum planning. These findings are consistent with some research findings. Calderhead (1990) and Furlong & Maynard (1995) for example, found that pre-service teachers preferred to copy and adapt ideas suggested by their cooperative teachers and that they draw upon the observed practices of their cooperative teachers in their planning and teaching rather than their own knowledge base. Thus, researchers such as Furlong and Maynard (1995) pointed out that, without intervention, subject knowledge might be considered by primary school pre-service teachers as neither particularly important for teaching, nor for pupils' learning.

3. Curriculum Integration

One of the major challenges that the UAEU English pre-service teachers and their cooperative teachers believed remained unsolved was their problem to recognize how subjects are integrated and developed. Although ADEC new curriculum innovation enforces the integrated approach and the integration of concepts across disciplines, the UAEU English pre service teachers' taught the three subjects without integrating them. They were not able to address a topic through the lenses of the three subject areas of mathematics, science and English. Even more, they were not aware of the purpose for curriculum integration.

The UAEU English pre-service teachers were still more adhered to a discipline-based type of curriculum. In addition , they held confused, restricted, or narrow conceptions about curriculum integration. Research studies have shown that the implementation of integrated curriculum has been hindered by problems such as: teachers' lack of skills, knowledge, and negative attitudes (Lam, 1996; Lee, 2002).

In ADEC elementary schools where the English pre-service teachers practised teaching, students often experience the integrated curriculum at learning centres; as students move through the learning centres to complete the activities, they learn about the concept of patterns through the lenses of various disciplines. Yet, the cooperative teachers indicated that that the UAEU English pre-service teachers needed adequate preparation of multiple levels of work for different learning outcomes and needed to learn about differentiated learning centres to provide significant learning. It could be inferred then that to improve the chance of success in achieving the goal of providing quality integrated curriculum, pre- service teachers need much more professional inputs about curriculum integration in their university academic studies.

c) The Discrepancy between Academic Coursework and Field Experience

Woven through the results of the interview, the questionnaire and the observation checklist was a notion of the discrepancy between university coursework and the pre-service teachers' field experience. More efforts were needed to increase the pre-service teachers' awareness of the ADEC curricular reform requirements and the changes that are taking place in elementary schools. The UAEU English pre-service teachers were moved from the university program setting to the field setting with no adequate preparation to meet the challenges of the current reform requirements.

In addition, the discrepancy between academic coursework and field experience was apparent. The UAEU English pre-service teachers faced the problem of how to recognize how theories they studied at the university and their field practice are related in their area of specialization. For instance, the UAEU English pre-service teachers struggled when they started to teach phonics to elementary students. The ineffective early literacy methodology utilized by the UAEU English pre-service teachers was apparent through the mixing between letters and sounds. For the subject support specialist of English, the UAEU English pre-service teachers were not able to teach students how the letters of the alphabet, singly or in combination, represent the sounds of spoken language. This finding is consistent with Tairab (2008) study findings about the UAEU pre-service science teachers' perceptions of their educational preparation. Tairab indicated that part of the dissatisfaction of pre-service teachers with their level of subject matter knowledge might be due to the lack of integration between what they taught at school and what they studied at the university. The findings of Tairab's study also revealed the need for systematically collecting perceptual information from university students and constantly re-examining teacher education program structure so that intended outcomes are sustained. In addition, the negative effect of the unrelated or

detached field experiences and university coursework on pre-service teachers' preparation was supported by many researchers such as Feiman-Nemser (2001) , Lyon, Vaassen & Toomey(1989), Berger& Luckman (1991) and Wallace (1991). Lyon, Vaassen & Toomey (1989) for example, reported that pre-service teachers find that the teaching program coursework has little effect on their teaching and that pre-service teachers tend to find discrepancy between theory and practice, therefore they believe that their coursework is too theoretical and can't be implemented in real classroom settings.

Moreover, the study findings revealed the need for more opportunities to observe high-quality authentic teaching in schools before pre-service teachers start their field experience. Although, the UAEU English pre-service teachers demonstrated sufficient theoretical background, the inadequate teaching of phonics for example, reflected insufficient authentic practice that was needed before starting the pre-service teachers' trainings as teachers. The UAEU English pre-service teachers should be provided with substantive and rich opportunities to increase their perceptions about the theories they studied during their academic coursework. The pre-service teachers' sense of confidence of teaching should be transferred from university coursework preparation and intensive field observations before they make this transition to real teaching in real settings. The need for intensive field observation provided to pre-service teachers was supported by many researchers such as Beck , Kosnic & Rowsell (2007), Bransford ,Darling Hammond & LePage (2005), Schulz (2005), Korthagen & kessels (1999), Hartocollis (2005) and Melnick & Meister (2008). According to Levine (cited in Hartocollis, 2005, p. 2) a widely-held concern is that "one of the biggest dangers we face is preparing teachers who know theory and know nothing about practice."

It can be inferred then that the quality of teaching and the ability to overcome challenges were affected by two important factors related to field experience and university preparation; what is required of the UAEU English pre-service teachers in their teaching practicum within a major curriculum reform and what is offered to them in terms of university preparation and training.

Implications for Further Research

Many pre-service teachers start their teaching experience eager and ready to make change, yet they are not always prepared for the challenges of teaching (Head, Hill & Maguire, 1996; Johnson & Birkeland, 2003). Therefore, for some pre-service teachers, the teaching practice may represent a useless experience, characterized by persistent feelings of failure, stress, and lack of self-confidence and self-esteem (Almeida, 2005; Head, Hill & Maguire, 1996). This study presents the challenges the curricular reform movement imposed, which affected the UAEU English pre-service teachers' feelings, beliefs and performance during their field experience. The findings of this study revealed that the UAEU English pre-service teachers encountered three main problems as they practiced teaching within a major curricular reform. These problems are knowledge of subject matter, knowledge of curriculum and the discrepancy between coursework and field experience. Thus, the following are implications for further research:

- One implication for further research could be conducting studies of a similar nature with large samples or to replicate the present study and include a larger sample of English pre-service teachers, perhaps from different educational backgrounds to claim generality. The results will then help to get a wide scope of the problem and the way it can be addressed so as to improve the quality of pre-service teachers education programs.

- There is still much to be learned about the knowledge of curriculum and knowledge of subject matter primary pre-service teachers do possess; and about the ways in which pre-service teachers can be encouraged to articulate and develop their knowledge to meet the requirements of education reforms hence, further research is needed.

Recommendations

The quality of teaching and the ability to overcome challenges are affected by two important factors: what is required of pre-service teachers and what is offered to them in terms of preparation and training. The following are recommendations that stemmed from the findings:

1. The kinds of experience and challenges pre-service teachers are expected to encounter in the classroom and the competencies they need in order to meet the education reform requirements should be specified and taught. In addition, universities should prepare pre-service teachers on the kinds of experience and challenges they are expected to encounter in the classroom during their practice teaching experience.

2. Pre-service teachers should be well equipped with a good command of subject matter knowledge that enables them to understand the relationship between information and the concepts that help organize that information in a discipline. Adequate knowledge of subject matter helps pre-service teachers make decisions about the construction of the curriculum and the teaching strategies.

3. For pre-service teachers who are required to teach multiple subjects, adequate preparation in the new subject areas as well as content and pedagogy areas are needed before launching into their practicum experience.

4. Moreover, pre-service teachers should have the desire to use the target language (English) in English language classrooms, since the current curricular reform emphasizes the necessity of using English as a language of instruction to teach English, mathematics and science to elementary school students.
5. Pre-service teachers need to develop deep understanding of curriculum integration. They need to know how to develop lessons that bring together content from different disciplines in a meaningful way.
6. It is recommended that the university should ensure that the teacher preparation program is aligned well with the curricular reform in elementary education. What education reform involves should be articulated in the teachers' education programs and preparation courses. Thus, it is important that the university collects data about the current curricular reform and use these data to determine what outcomes, other than academic issues, might be considered when modifying their teacher education program.
7. There is a lack of sufficient understanding of the nature of knowledge the pre-service teachers have to develop and the good understanding of the multidimensional nature of knowledge they will teach before identifying appropriate strategies therefore, follow up studies are needed. Teacher education programs, should investigate what course requirements are necessary to ensure pre-service teachers' acquisition of subject matter knowledge. In addition, much is needed to know about what should be done to combine subject matter learning with pedagogical preparation.
8. Universities should re-examine the pre-service teachers concerns about their practicum experience they would like to see improved and the gap they feel exist between university coursework and teaching practicum. They need to establish a

follow up program to ascertain their graduates' views concerning the impact and usefulness of the teacher-education program components on their teaching.

9. Research about the impact of education reform movements and field experiences on pre-service teachers' effectiveness is needed. Under what field experience conditions pre-service teachers are most likely learn to teach productively should be investigated.

References

Abu-Dhabi Education Council (ADEC) English language Policy Manual. (2010). Retrieved From: http://www.adec.ac.ae/ADEC%20Shared%20Documents/Forms.

Adelman, C. (1999). *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment.* Washington, DC: U.S. Department of Education.

Al-Awidi, H., & Alghazo, I. (2012). Pre-service elementary teachers' Self-efficacy Beliefs toward Technology Integration into the Classroom in the UAE. *Journal of Research on Technology in Education* (JRTE).

Allen, R. (1988). *The National Evaluation System approach to teacher assessment.* Paper presented at the annual meeting of the Michigan Association of Colleges of Teacher Education, Detroit.

Almeida, S. (2005). Teaching Practice in Initial Teacher Education: its impact on student teachers' professional skills and development. *Journal of Education for Teaching: International research and pedagogy, 31*(2), 111-120.

Almekhlafi, A. (2004). Preservice and inservice teachers' computer use in the UAE. *Journal of College of Education, 19*(21), 1-35.

Almekhlafi, A. (2006). Videoconferencing Application in the United Arab Emirates Schools: An Analytical Study. *Journal of Education and development, 35*, 21-45.

Almekhlafi, A., Al-Mekhlafy, M., & Forawi, S. (2011). Investigating UAE pre-service teachers' perceptions and validation of use of electronic portfolios. *Computer Research and Development (ICCRD), 2*, 379- 382.

An, S., Kulm, G., & Wu, Z. (2004). The pedagogical content knowledge of middle school mathematics teachers in China and the U.S. *Journal of Mathematics Teacher Education*, 7, 145-172.

Anderson, D. (2007). The role of cooperating teachers' power in student teaching. Retrieved from: http://findarticles.com/p/articles/mi_qa3673/is_2_128/ai_n29412775/

Aubrey, C. (1997). Mathematics teaching in the early years: An investigation of teachers' subject knowledge. London: The Falmer Press.

Austin, J., Hirstein, J., & Walen, S. (1997). Integrated mathematics interfaced with science. *School Science and Mathematics*, 97(1), 45–49.

Ayers, W. (2004). *Teaching toward Freedom: Moral Commitment and Ethical Action in the Classroom.* Boston: Beacon Press.

Bacherman, D. (2007). The Use of Student' First Language in Second –Language Learning in a Computer Based Environment. A PhD. Dissertation, Walden University States. Retrieved from:
ACM Digital Library: http://dl.acm.org/citation.cfm?id=1269542

Ball, D. & Cohen, D. (1999). Developing practice, developing practitioners. In L. Bransford, J., Darling-Hammond, L., & LePage, P. (& G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco, CA: Jossey Bass Publishers.

Bartels, N. (2005). Applied Linguistics and Language Teacher Education: What We Know. *Applied Linguistics and Language Teacher Education*. Bartels, N. (Ed). Springer. New York. 405-424.

Batten, M., Griffin, M. & Ainley, J. (1991). Teachers of two to five years' experience: Views and experiences of pre-service education, professional development and teaching in schools. Canberra: Australian Government Publishing Service.

Beck, C., Kosnik, C., & Rowsell, J. (2007). Preparation for the first year of teaching: Beginning teachers' views about their needs. *New Educator*, 3 (1), 51-73.

Bennett, N. (1993). Knowledge bases for learning to teach. In N. Bennett and C. Carre (Eds) *Learning to Teach* (London, Routledge).

Berger, P., & Luckmann, T. (1991). *The social construction of reality: A treatise in the sociology of knowledge*. London: Penguin.

Bernard, R. (2000). *Social Research Methods: Qualitative and Quantitative Approaches*, Sage Publications, California.

Borg, M. (2001). Key Concepts: Teachers' beliefs. *ELT Journal, 55*(2), 186-188.

Bouillion, L., & Gomez, L. (2001). Connecting school and community with science learning: Real world problems and school-community partnerships as contextual scaffolds. *Journal of Research in Science Teaching*, 38(8), 878-898.

Bransford, J., Darling-Hammond, L., & LePage, P. (2005). Introduction. In Darling Hammond L. & Bransford, J. (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 1-39). San Francisco: Jossey-Bass.

Brantlinger et al. (2005). Qualitative Studies in Special Education. *Exceptional Children, 71*(2), 195-207.

Buck et al. (1992). Pre-service training: The role of field-based experiences in the preparation of effective special educators. *Teacher Education and Special Education*, 15(2), 108-123.

Buxton, C. (2006). Creating contextually authentic science in a 'low-performing' urban elementary school. *Journal of Research in Science Teaching*, 43(7), 695-721.

Bybe, R. (1987). Science educators' perceptions of the ideal science Teacher. *School Science and Mathematics*, 78(1), 13-22.

Bye, M. (1975). *"Reading in math and cognitive development."* ERIC Document Reproduction Service. ED 124 926.

Caires, S., & Ameida, L. (2007). Positive aspects of the teacher training supervision: The student teachers' perspectives. *European Journal of Psychology of Education*, 22(4), 515-528.

Calderhead, J., (1990). Conceptualising and evaluating teachers' professional learning. *European Journal of Teacher Education*, 13 (3), 153 – 160.

Carlsen, W. (1999). Domains of teacher knowledge. In: Gess-Newsome J. & Lederman NG (Eds). *Examining pedagogical content knowledge*. Dordrecht: Kluwer Academic Publishers.

Carter, K. (1990). Teachers' knowledge and learning how to teach. In W. R. Houston(Eds). *Handbook of research on teacher education*. New York: Macmillan.

Cheng, Y. (2001). New education and new teacher education. A paradigm shift for the future. In Cheng et al. (Eds.), *New teacher education for the future. International Perspectives*. Hong Kong Institute of Education & Kluwer Academic Publishers.

Cheng, Y. et al. (2004). *Reform of teacher education in Asia- pacific in the new millennium. Trends and challenges*. The Netherlands: Kluwer Academic Publishers.

Choi, S. (2000). Teachers' beliefs about communicative language teaching and their classroom teaching practices. *English Teaching, 55*(4), 3-32.

Clark, C. (1988). Asking the right questions about teacher preparation: Contributions of research on teaching thinking. *Educational Researcher*, 17(2), 5-12.

Clift, R., & Brady, P. (2005). Research on methods courses and field experiences. In M. Cochran-Smith & K.M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 309–424). Mahwah, NJ: Erlbaum.

Cochran-Smith, M. (2005). *Studying teacher education: The report of the AERA panel on research and teacher education.* Mahwah: NJ: lawrence Erlbaum Associates.

Cochran-Smith, M. (2008). *Toward a theory of teacher education for social justice.* Paper prepared for the Annual Meeting of the American Educational Research Association New York City.

Cochran-Smith, M., & Lytle, S. (1992). Communities for teacher research: Fringe or forefront? *American Journal of Education*, 100, 298-325.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research.* Thousand Oaks, CA: Sage.

Creswell, J.W. (1994) *Research design: Qualitative and quantitative approaches*. Sage Publications, California.

Creswell, J. (1998). *Qualitative Inquiry and Research Design Choosing Among Five Traditions*. Thousand Oaks, CA: Sage Publications.

Creswell, J. (2002). Educational research: *Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle Creek, NJ: Pearson Education.

Creswell, J. (2003). *Research design: qualitative, quantitative, and mixed approaches*. Thousand Oaks, CA: Sage Publications, Inc.

Danielson, C. (1996). Enhancing Professional Practice. A Framework for Teaching. Retrieved from: http://www.umatilla.k12.or.us/NCLB/Char_Danielson.htm.

Darling-Hammond, (1999). *Teacher quality and student achievement: A review of state policy evidence*. Seattle, WA: Center for the Study of Teaching and Policy.

Darling Hammond et al. (2005). *The Design of Teacher Education Programs*. In J. Bransford (Eds). Preparing Teachers for a Changing World.

Davis, E., Petish, D., & Smithey, J. (2006). Challenges new science teachers' face. *Review of Educational Research, 76*(4), 607-651.

Deborah et al. (2008). Content Knowledge for Teaching: What makes it special? Retrieved from: http://jte.sagepub.com/content/59/5/389.abstract

De[illegible]-Perrotta, Moseley, C., & Cantu, L. (2008). Pre-service teachers' perceptions of The environment: Does ethnicity or dominant resident experience matter? *Journal of Environmental Education*, 39(2), 23-31.

Dikdere, M. (2007). The Impact of Practicum on Pre-service Teachers' Self-Development. In *Readings in Language Studies. Language Across Disciplinary Boundaries*. Mantero,M.

Dinsmore, J., Chapman, A., & McCollum, V. (2000,). Client advocacy and social justice: Strategies for developing trainee competence. Paper presented at *The Annual Conference of the American Counselling Association*, Washington, DC.

Draper, J., O'Brien, J., & Christie, F. (2004). First impressions: the new teacher induction arrangements in Scotland. *Journal of In-Service Education*, 30(2), 201-223.

Eisenhart, M. et. al. (1993). Conceptual knowledge falls through the cracks: Complexities of learning to teach mathematics understanding. *Journal for Research in Mathematics Education*, 24(1), 8- 40.

Eisner, E. (1992). Educational reform and the ecology of schooling. *Teachers College Record* 93 (4), 610-627.

Feiman- Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record*, 103, 1013-1055.

Ferguson, P.,& Womack, S. (1993). The impact of subject matter and education coursework on teaching performance. *Journal of Teacher Education*, 44, 55-63.

Fleer, M., & Hardy, T. (2001). *Science for children.* Sydney, Australia: Prentice Hall.

Fraenkel, J., & Wallen, N. (2003). *How to design and evaluate research in education.* Boston, MA: McGraw-Hill.

Freeman, D., & Richards, J. C. (Eds.) *Teacher Learning in Language Teaching.* Cambridge: Cambridge University Press. (pp. 295-319).

Furlong, J. & Maynard, T., 1995, '*Mentoring Student Teachers: The growth of professional knowledge*', London: Routledge.

Glaser, B. & Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research.* New York: Aldine De Gruyter.

Goldhaber, D., & Brewer, D. (2000). Does teacher certification matter? High school teacher certifications status and student achievement. *Educational Evaluation and Policy Analysis*, 22, 129-145.

Goodlad, J. (1990). *Teachers for our nation's schools.* California: Jossey-Bass.

Goodman, J. (1986). What students learn from early field experiences: A case study and critical analysis. *Journal of Teacher Education*, *36*(6), 42-48.

Gordon, G., McBride, R., & Hage, H. (2001). "Political, Economic and Legal Factors". In *Criminal Justice Internships: Theory into Practice*, Anderson Publishing Co.: Cincinnati, p. 103-116.

Grant, C., & Gillete, M. (2006). A Candid talk to teacher educators about effectively preparing teachers who can teach everyone's children. *Journal of Teacher Education*, 57(30), 292-299.

Grossman, P. (1988). Sources of pedagogical content knowledge in English. A PhD. dissertation, *Stanford University.*

Grossman, P. (1990). *The making of a teacher: teacher knowledge and teacher education.* New York: Teachers College Press.

Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal*, 45 (1), 184–205.

Gurvitch, R., & Metzler, M. (2009). The effects of laboratory-based and field-based practicum experience on pre-service teachers' self-efficacy. *Teaching and Teacher Education*, 25, 437–443.

Haberman, M. (2005). *Where the public schools can find $2.6 billion more every year.* Milwaukee, WI: The Haberman Educational Foundation.
Retrieved from:
http://www.habermanfoundation.org/research/research.asp

Hallinan M., & V. Khmelkov. (2001). "Recent developments in teacher education in the United States of America." *Journal of Education for Teaching*, 27(2), 177-187.

Hammerness, K. (2006). *Seeing through teachers' eyes: Professional ideals and classroom practices.* New York: Teachers College Press.

Hargreaves, A., & Dawe, R. (1990). Paths of Professional Development: Contrived Collegiality, Collaborative Culture, and the Case of Peer Coaching. *Teaching and Teacher Education, 6*(3), 227-241.

Hartocollis, A. (2005). Who needs education schools? What colleges teach. What teachers need to know, and why they're not the same. *New York Times*
Retrieved from:
http: /www.nytimes.com/2005/07/31/education/edlife/hartocollis31.html.

Hatch, T. (1998). The differences in theory that matter in the practice of school improvement. *American Educational Research Journal*, 35(1), 3-31.

Hatch, J. (2002). *Doing qualitative research in education settings*. State University of New York, Albany.

Head, J., Hill, F., & Maguire, M. (1996). Stress and the postgraduate secondary school trainee teacher. A Britich case study. *Journal of Education*, 22(1), 71-84.

Hedrick, W. (1999). Pre-service teachers tutoring 3rd, 4th, and 5th graders one-on-one within the school setting. *Reading Research and Instruction*, 38(3), 211-219.

Herbst, J. (1989). *And Sadly Teach: Teacher Education and Professionalization in American Culture*, Madison: University of Wisconsin Press.

Hiramatsu, S. (2005). Contexts and policy reform: A case study of EFL teaching in a high school in Japan. In D. J. Tedick (Eds). *Second language teacher education: International perspectives* (pp. 113-134). Mahwah, NJ: Lawrence Erlbaum Associates.

Hoffman, J. (2004). Achieving the goal of a quality teacher of reading for every classroom: Divest, test, or invest? *Reading Research Quarterly*, 39(1), 119-128.

Hong, W. (2008). lexical Aspect and L1 Influence on the Acquisition of English Verb Tense and Aspect among Hong Kong Secondary School Learners. A Ph.D dissertation. *Hong Kong Polytechnic University.*
Retrieved from:
http://repository.lib.polyu.edu.hk/jspui/handle/10397/3244.

Howey, K. (1983). *Teacher education: An overview. The Education of Teachers: A look ahead.* New York. Longman Press.

Hult,R. & Edens, K. (2001). Research on pre-service teacher education. *Journal of Teacher Education*, 36(1), 23-30.

Hult, R., & Edens, K. (2001). Videoconferencing: Linking university and public school classroom experiences. Paper presented at the annual meeting of *the American Educational Research Association, Seattle, WA.*

Ishler, R. (1996). Elementary Education. In J. Sikula, *Handbook of research on teacher education* (pp. 348-377). New York: NY: Simon & Schuster Macmillan.

Ishtaiwa, F., & Shana, Z. (2011).*The use of interactive whiteboard (IWB) by pre-service teachers to enhance Arabic language teaching and learning.*
Retrieved From:
http://lthe.zu.ac.ae/index.php/lthehome/article/viewDownloadInterstitial/65/18

Jacobs, H. (1989). *Interdisciplinary curriculum: design and implementation, Association for Supervision and Curriculum Development.* Alexandria, Virginia.

Johnson S., & Brickelandl S.(2003). Pursuing a "sense of sucess". new teachers explain their career decisions. *American Educational Reserach Journal, 40*(3), 581-617.

Johnston, B., & Irujo, S. (2001). Research and practice in language teacher education: Voices from the field. Selected papers from the First International Conference on Language Teacher Education. Minneapolis, MN: *Centre for Advanced Research on Language Acquisition.*

Kain, D. (1993). Cabbages and kings: Research directions in integrated/interdisciplinary curriculum. *The Journal of Educational Thought*, 27(3), 312–331.

Koehler, V. (1985). Research on pre-service teacher education. *Journal of Teacher Education*, 36(1), 23-30.

Kosnik, C., & Beck, C. (2009). *Priorities in teacher education: The 7 key elements of pre-service preparation.* New York: Routladge.

Korthagen, F., & Kessels (1999). Linking Theory and Practice: Changing the Pedagogy of Teacher Education. *Educational Researcher*, 28 (4), 4 – 17.

Korthagen, F., & Vasalos, A. (2005). Levels in reflection: core reflection as a means to enhance professional growth. *Teachers and Teaching: theory and practice, 11 (1)*, 47-71.

Kwo, O. (1996). Learning to teach English in Hong Kong classrooms: Patterns of reflections. In Freeman, D. and Richards, J. C. (Eds.) *Teacher Learning in Language Teaching*. Cambridge: Cambridge University Press. (pp. 295-319).

Lam, C., (1996). *Target Oriented Curriculum: An inaccessible ideal*. Hong Kong: Hong Kong Institute of Educational Research, The Chinese University of Hong Kong.

Lankard, B. (1995). New ways of learning in the workplace. *Columbus, OH: ERIC Clearinghouse on Adult, Career and Vocational Education.*
Retrieved from:
http://www.ericacve.org/docgen.asp?tbl=archive&ID=A011.

LeCornu, R. (2005). Peer mentoring: Engaging pre-service teachers in mentoring one another. *Mentoring and Tutoring*, 13(3), 355-366.

Lee, C. (Ed.). (2002). *Curriculum, teaching and school reforms: Educational development in a new century*. Hong Kong: The Chinese University Press.

Lee, I. (2004). Preparing non-native English speakers for EFL teaching in Hong Kong. In L. Kamhi-Stein (Eds), *Learning and teaching from experience* (pp. 230-251). Ann Arbor, MI: University of Michigan Press.

Lincoln,Y., & Guba, E. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.

Loughran, J., & Northfield, J. (1998). A framework for the development of self-study practice. In M. L. Hamilton (Eds), *Re-conceptualizing teaching practice: Self-study in teacher education* (7-18). London: Falmer Press.

Lyon, G., Vaassen, M., & Toomey, F. (1989). Teachers' perceptions of their undergraduate and graduate preparation. *Teacher Education and Special Education*, 12, 164-169.

McBee, M. (2004). The classroom as laboratory: An exploration of teacher research. *Roper Review*, 27(1), 52-58.

McDonough, J. (2009). Making the connection. *The Science Teacher*, 76 (3), 34-37.

McIntyre. (1996). Field and laboratory experiences. In T. B. J.Sikula, *Handbook of research on teacher education* (pp. 171-193). New York: Macmillan.

Melnick, S., & Meister, D. (2008). A comparison of beginning and experienced teachers' concerns. *Educational Research Quarterly*, 31(3), 39-56.

Memon, M. (1997). Curriculum change in Pakistan: *An alternative model of change. Curriculum and Teaching*, 12(1), 55-63.

Merriam, S. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.

Merriam, S. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco: Jossey-Bass.

Monk, D. (1994). Subject area preparation of secondary mathematics and science teachers and student achievement. *Economics of Education Review*, (13), 125-145.

Montgomery, B. (2000). The student and cooperating teacher relationship. *Journal of Family and Consumer Sciences Education*, 18(2), 7-15.

Neuman, S. (2001). The role of knowledge in early literacy. *Reading Research Quarterly*, (36), 468-475.

Orungbemi, O. (2009). Awareness and use of teaching skills among primary school social studies teachers. *Sustainable Human Development Review*, 1(3), 127-138.

Park, S., & Oliver, J. (2008). Re-conceptualization of pedagogical content knowledge: PCK as a conceptual tool to understand teachers as professionals. *Research in Science Education*, (38), 261-284.

Patton, M. (1990). *Qualitative evaluation and research methods*. (2nd. ed.). London: Sage.

Patton, M. (2002). *Qualitative research and evaluation methods*. (3rd. ed.). Thousand Oaks, CA: Sage Publications.

Pedretti, E. (2005). STSE education: Principles and practices. In S. Alsop, L. Bencze & E. Pedretti (Eds.), *Analyzing exemplary science teaching: Theoretical lenses and a spectrum of possibilities for practice* (pp. 116-126). London: Open University Press.

Pratt, D. (1980). *Curriculum: Design and Development*. NY: Harcourt Brace Jovanovich.

Ribich, F. (1995). Providing meaningful field experiences. In G. A. (Ed), *The field experience: Creating successful programs for new teachers* (pp. 35-43). California: Corwin Press.

Richardson, V. (1990). Significant and worthwhile change in teaching practice. *Educational Researcher* 19(7), 10–18.

Ridgway, J. et al. (2003). Student Attainment in the Connected Mathematics Curriculum. In S. Senk & D. Thompson (Eds.). *Standards-Based School Mathematics Curricula* (pp. 193-224. *LEA:* New Jersey.

Riordan, J., & P. Noyce. (2001). The impact of two standards-based mathematics curricula on student achievement in Massachusetts. *Journal for Research in Mathematics Education* 32(4):368–98.

Risko et al. (2008). A critical analysis of research on reading teacher education. *Reading Research Quarterly*, 43(3), 252-288.

Rivet, A., & Krajcik, J. (2008). Contextualizing instruction: Leveraging students' prior knowledge and experiences to foster understanding of middle school science. *Journal of Research in Science Teaching*, 45(1), 79-100.

Ross, E. (1987). Pre-service Teachers' Perspectives Toward Secondary Social Studies Education. Paper presented at the annual meeting of *The American Educational Research Association,* Washington, DC.

Rubin, H., Rubin, I. (2004). *Qualitative interviewing: The art of hearing data.* Thousand Oaks, CA. Sage Publications.

Schemp, P., & Graber, K. (1992). Teacher socialization from a dialectical perspective: Pre-training through induction. *Journal of Teaching in Physical Education,* 11 (4), 329-348.

Schulz, R. (2005). The practicum: More than practice. *Canadian Journal of Education,* 28(1), 147-167.

Schwab, J. (1978). Education and the structure of the disciplines. In J. Westbury & N. Wilkof (Eds.), *Science, curriculum, and liberal education.* Chicago: University of Chicago Press.

Senechal, E. (2008). Environmental justice in Egleston Square. In D. A. Guenewald, & G. A. Smith (Eds.), *Place-based education in the global age: Local diversity* (pp. 85-111). New York: Lawrence Erlbaum Associates.

Senk, S., & Thompson, D. (2003). *Standards-Based School Mathematics Curricula: What are they? What do students learn?* Mahwah, N.J.: Erlbaum.

Shoemaker, & Betty J. (1989). "Integrative Education: A Curriculum for the Twenty-First Century" OSSC Bulletin, 33(2). Eugene, Oregon School Study Council.

Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher,* 15(2), 4-14.

Simpson, M. (2002). The use of CMC in preparing and supporting primary pre-service teacher education students for their field experience in a distance education delivered teacher education programme. *Distance Education Association.* Wellington: Newzeland.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory.* Thousand Oaks, CA: Sage.

Strawhecker, J. (2005). Preparing elementary teachers to teach mathematics: How field experiences impact pedagogical content knowledge. *Issues in the Undergraduate Mathematics Preparation of School Teachers.*
Retrieved from:
http://www.k-12prep.math.ttu.edu/journal/curriculum/strawhecker/article.pdf

Tairab, H.(2008). A study of Science Teachers' Perceptions of their Educational Preparation. *Journal of College of Education,* 25, 1- 24.

Thiessen, D. (2000). Developing knowledge for preparing teachers: redefining the role of schools of education. *Educational Policy,* 14(1), 129-144.

United Arab Emirates University Student Teaching Manual. (2011). Retrieved from: http://www.fedu.uaeu.ac.ae/fe/docs/Teaching_Practicum_Manual.pdf

Veenman, S. (1984). Perceived problems of beginning teachers. *Review of Educational Research*, (54), 143-178.

Vick, M., (2006) "Texts and Contexts: International Sources and Universalistic Discourse in Australian Teacher Education 1900-1950," *Australian Journal of Teacher Education*, 31 (1), 12-18.

Virta, A. (2002). Becoming a history teacher: observations on the beliefs and growth of student teachers. *Teaching and Teacher Education, 18*, 687-698.

Wallace, M. (1991). *Training foreign language teachers. A reflective approach.* New York: Cambridge University Press.

Wideen, M., Mayer-Smith, J., & Moon, B. (1998). A critical analysis of the research on learning to teach: Making the case for an ecological perspective on inquiry. *Review of Educational Research*, 68(2), 130–178.

Wolf, P., & Brandt, R. (1998). What do we know from brain research? *Educational Leadership*, 56(3), 8–13.

Wragg, E., Bennett, S., & Carre, C. (1989) Primary teachers and the national curriculum, *Research Papers in Education*, 4 (1), 17-45.

Yost, D., Sentner, S., & Bailey, A., (2000). "An Examination of the Construct of Critical Reflection: Implications for Teacher Education Programming in the 21st Century". *Journal of Teacher Education*, 51, 39-49.

Zeichner, K., & Tabachnich, B. (1981). Are the effects of university teacher education "washed out" by school experience? *Journal of Teacher Education, 32*(3), 7-11.

Appendix A: Cooperative Teachers Background Survey

1. Gender: Male_____ Female_____
2. Elementary School type: Public School _____ Private School_____
3. Grade Level you are teaching: _____
4. Subjects you teach: _____
5. Length of Teaching Experience: _____
6. Number of times you mentored pre- service teachers: _____
7. Number of English Pre-service Teachers you are mentoring this semester: _____

Appendix B: Subject Support Specialist Background Survey

1. Gender: Male_____ Female_____
2. Specialization : _____
3. Subjects you are supervising: _____
4. Length of Supervision Experience: _____
5. Number of times you supervised pre- service teachers: _____
6. Number of times you observed English Pre-service Teachers: _____

Appendix C : UAEU English Pre-service Teachers Interview Questions

Field Problems

1. What problems do you face in your teaching mathematics, science and English?
2. Why do you think you faced these problems?
3. What problems were you able to overcome?
4. What problems remained unsolved?
5. Does the preparation you received during your course study help you overcome these problems?

University Practicum Program

In your opinion, what should be done to help you, during your field experience that could enable you to meet the requirements of ADEC education reforms?

Note: this interview is a semi- structured interview. The above mentioned questions are the core questions. To gather more information, other spontaneous and elaborative questions were asked by the researcher to clear some views and for threaded discussion.

Appendix D: Cooperative teachers' Questionnaire

is questionnaire is designed to collect information about the UAEU English Pre- service Teachers d experience challenges and how they cope to teach within ADEC curriculum reform. Each lement in the questionnaire is followed by a number means the following: 5= Strongly Agree Agree 3= Neither agree, nor disagree 2= Disagree 1= Strongly disagree. All responses are fidential. Your co-operation in completing this study by responding to the following questions uld be greatly appreciated. Thank you.

e- service teacher classroom performance

tegory Statement	Strongly Agree				Strongly disagree
owledge of Subject Matter					
- service teacher demonstrates an understanding of the subject matter of English.	5	4	3	2	1
e- service teacher demonstrates an understanding of the subject matter of Math.	5	4	3	2	1
- service teacher demonstrates an understanding of the subject matter of Science	5	4	3	2	1
- service teacher takes into account students' individual learning styles.	5	4	3	2	1
rriculum Knowledge					
e- service teacher structures learning materials to develop significant learning experiences.	5	4	3	2	1
e- service teacher knows how to use different available resources.	5	4	3	2	1
e- service teacher are prepared to teach the integrated curriculum.	5	4	3	2	1

eases answer the following questions:

1. What areas is UAEU English pre- service teachers good at in teaching English, Science and Mathematics?

2. a. What problems do the UAEU English pre-service teachers face as they teach English, Mathematics and Science?

3. What problems were they able to overcome? How?

Appendix E: Subject Support Specialist's Classroom Observation Form

This Observation form is mainly designed to collect information about the UAEU English Pre-service Teachers field experience challenges and how they cope to teach within ADEC curriculum reform. Each statement in the observation is followed by a number means the following: 5= Excellent 4= V. good 3= Not observed 2= Satisfactory 1= Poor. Your co-operation in completing this form while observing pre-service teachers classroom performance would be greatly appreciated.

ategory tatement nowledge of Subject Matter	Excellent	V good	Not Observed	Satisfactory	Poor
re- service teacher demonstrate an understanding of the central concepts f her discipline.	5	4	3	2	1
e- service teacher uses methods of inquiry that are central to the discipline.	5	4	3	2	1
e- service teacher designs instruction appropriate to students learning styles.	5	4	3	2	1
e- ervice teacher engages students in interpreting ideas from a variety f per pective.	5	4	3	2	1
urriculum Knowledge					
e- service teacher uses explanations that link curriculum to prior learning.	5	4	3	2	1
re- service teacher u es different resources and materials for instructional elivery.	5	4	3	2	1
re- serv ice teacher uses integrated approaches to teaching and learning.	5	4	3	2	1

1. **Strengths in pre service teacher's performance** (e.g. subject matter knowledge and curriculum knowledge) **(Please specify 2).**

2. **Weaknesse / problems pre-service teachers face in teaching the subject (Please specify 2).**

3. **To what extent were the UAEU English pre-service Teachers prepared to overcome the challenges they faced during their field experience?**

الخلاصــه

الهدف من هذه الدراسة النوعيه هو بحث المشاكل التى تواجهها المعلمات المتدربات أثناء تدريبهن الميداني في المدارس في ظلال الإصلاح التربوي في المناهج. ركزت الدراسة على خمس متدربات من معلمات جامعة الإمارات العربيه المتحده المتدربات والمتخصصات فى تدريس مادة اللغه الانجليزية أثناء تدريبهن الميداني في المدارس وخمس من المعلمات المتعاونات. شملت أدوات البحث التى تم توظيفها مقابلات ، استبيان و قائمه شطب مبنية على الملاحظة لدراسة مشاكل التدريب الميداني التي تواجهها المعلمات المتدربات من جامعه الامارات العربية المتحدة المتخصصات في مادة اللغة الإنجليزية. وقد ساهم الاستعانة بأكثر من مصدرلجمع المعلومات فى إعطاء صورة واضحة للتحديات التي تواجهها معلمات اللغه للانجليزية المتدربات أثناء تدريبهن العملى فى المدارس مما أدى بدوره إلى تحسين الثقة فى نتائج البحث. وقد أشارت نتائج البحث إلى أن معلمات جامعة الامارات المتدربات والمتخصصات فى مادة اللغه الإنجليزية تعبرن أنفسهن عبر مؤهلات لمواجهة مطلبات الإصلاح التربوي في المناهج الدراسية.

كما كشفت نتائج البحث أيضا بأنه على الرغم من الإعداد الجيد للمعلمات المتدربات من قبل الجامعة لتدريس اللغه الإنجليزيه إلا أن الفجوة بين الدراسه الأكاديمية و التدريب الميداني كانت واضحة. وأخيرا، كشفت نتائج البحث أن أكثر التحديات التي واجهتها معلمات جامعة الامارات المتدربات المتخصصات في مادة اللغة الانجليزية تمحورت حول المعرفة المتخصصه بالمادة في الرياضيات والعلوم و المعرفه بالمناهج التدريسيه.

*الكلمات المحوريه:*معلمات جامعة الامارات العربيه المتحدة المتدربات، إصلاح المناهج في دولة الإمارات، التدريب العملي للتدريس، تحديات المعلمات االمتدربات، الخبرة الميدانيه، الدراسة الجامعيه، مجلس أبوظبى للتعليم.

جامعة الإمارات العربية المتحدة

كلية التربية

برنامج الماجستير في التربية

عنوان الرسالة

تحديات التدريب الميداني لمعلمات جامعة الامارات المتدربات المتخصصات في تدريس مادة اللغة الانجليزية

في ظلال اصلاح تربوي أساسي في المناهج الدراسية

الطالبة

سحـر علي سالـم

تاريخ أجتياز المناقشة

2013/1 /23

تم قبول الرسالة من قبل اعضاء لجنة النقاش

استيفاء لمتطلبات الحصول على

درجة الماجستير في التربية

أعضاء لجنة النقاش

د. نجم الدين الشيخ	مشرفا ورئيسا
د. عبد الرحمن المخلافي	عضوا
د. محمد شعبان	عضوا

جامعة الإمارات العربية المتحدة
United Arab Emirates University

UAEU College of Education

جامعة الامارات العربية المتحدة

كليـــة التربيـــة

قسم المناهج و طرق التدريس

برنامج الماجستير في التربية

تحديات التدريب الميداني لمعلمات جامعة الامارات المتدربات المتخصصات في تدريس مادة اللغة الإنجليزية في ظلال إصلاح تربوي أساسي في المناهج الدراسية

سحـــر علي سالـم

أطروحة مقدمة إلى

جامعة الإمارات العربية المتحدة

استكمالا لمتطلبات الحصول على

درجـة الماجستير في التربيـة

المناهج وطرق التدريس: تعليم اللغة الانجليزية

يناير، 2013