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Teacher's Attitudes towards Integrating Technology: Case Studies in Saudi Arabia and the United States

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Teacher's Attitudes towards Integrating Technology: Case Studies in Saudi Arabia and
the United States.

Asma Mohammed Alharbi

A Thesis Submitted to the Graduate Faculty of

GRAND VALLEY STATE UNIVERSITY

In

Partial Fulfillment of the Requirements

For the Degree of

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College of Education

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ABSTRACT

This Study examined teachers' attitudes towards integrating technology in Saudi Arabia and the United States. A case study approach was used to identify several factors that challenge teachers and schools to adapt or integrate technology. And, the case study also reveals similarities and differences between the preparation and practice of teachers in Saudi Arabia and in the United States.

The data was collected through semi-structured interviews distributed to ten teachers from Saudi Arabia and the United States. These interviews were analyzed to determine teachers' attitudes in both countries and to compare and contrast these results. Findings reveal that teachers from both countries note positive educational benefits in using technology, but that there is also a discrepancy between how teachers are prepared to use technology and in the availability of technology in their classrooms. And unfortunately, most teachers seem to lack the time needed to learn to use and apply technology in meaningful ways into the curriculum.

Key words: teachers, attitudes, Saudi Arabia, education, curricular integration, instructional technology, United States, computers, technology.

DEDICATION

First, this work dedicated to ALLAH,

The lord, Creator, and sustainer of the Heaven and Earth.

Second, this work is dedicated to my father Mohammed, and my mother, Noor for their unfailing love, support and prayers throughout all of my studies including this thesis.

To my family and friends for their devotion, support and encouragement of my accomplishment during the time of doing my thesis.

To my older sister Souad, who encourages me all the time.

May Allah bless you all.

ACKNOWLEDGEMENTS

I would like first to thank Allah for helping and giving me the inspiration, patience, time and strength to accomplish this thesis. Then, I should acknowledge that, although I take the responsibility for this work, it was the result of the collective efforts of a number of valued people who directly or indirectly supported me during my thesis research. To these people, I owe my gratitude and thanks.

I wish to express my sincere thanks to my chair person, Dr. Sean Lancaster, for his guidance, encouragement and support. I have appreciated his patience, input and positive criticism and comments throughout the development of my thesis. I am deeply thankful to Associate Professor Andrew Topper and Paula Lancaster, for their suggestions in parts of this study. I am also indebted to all of the study participants in Saudi Arabia and the United States for their time and willingness to share their information and opinions. I should also thank the Saudi ministry of Higher Education, my sponsor, for its financial support.

Finally, special thanks go to my family members who have always been the most significant factors in my life and provided endless encouragement, support and patience, throughout achieving my goals. I am really proud of them.

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CHAPTER I: INTRODUCTION

Problem Statement

Using technology in instruction has been a part of education for decades; however, it is still considered a relatively new pedagogy to integrate technology into curricula (Cherepski & Hunge, 2000; 2003). Teachers, who become the main focus during the process of integrating these technologies into the curriculum, face several obstacles when trying to integrate technology into their curricula. Many school districts are pushing technologies across all levels of education. In fact, billions of dollars are spent every year in purchasing and equipping schools in the United States and in the world (Norris, Sullivan, Poirot, & Soloway, 2003). However, The National Center for Education Statistics (2010) reported that 69% of teachers used computers for instructional purposes in the United States. The research identifies several factors that challenge schools and teachers to integrate the technology into the curricula.

The purpose of this current research is to understand teachers' attitudes and to examine the factors that encourage or impede teachers from integrating technology. This study investigates instructors' attitudes and the influence of other factors toward adapting technology in educational practice.

Importance and Rational of Study

As the need for technology's presence in the classroom increases, teachers are more likely to stay with their pedagogical beliefs about teaching with technology. Little research had been conducted in this area of interest about how these beliefs influence teachers' adaption to using technology. In 2002, Zhao, Pugh, Sheldon and Byers found that, despite a wealth of survey studies examining factors manipulating teachers' uses of technology, "these types of studies tend to neglect the messy process through which teachers struggle to negotiate a foreign and potentially disruptive innovation into their familiar environment" (p. 483). In 1999, Ertmer distinguished between two types of barriers that impacted teachers' uses of technology in the classroom. First-order barriers were defined as those that were external to the teacher and included resources (both hardware and software), training, and support. Second-order barriers included those that were internal to the teacher and included teachers' confidence, beliefs about how students learned, as well as the perceived value of technology to the teaching/learning process. Multiple researchers have found that the second- order barriers are the most challenging for teachers (Dexter & Anderson, 2002; Ertmer, 1999; Ertmer, Addison, Lane, Ross, & Woods, 1999;Newhouse, 2001; Zhao, Pugh, Sheldon, & Byers, 2002). Hofer and Swan (2011) found that teachers with their limited training and relatively superficial curricula, most likely would have found the implementation of technology quite challenging. Generally, a teacher's belief and attitude should be considered if teachers' use of technology is to be increased. That consideration can result in an increase in students' learning in different aspects. This comparison between teachers' attitudes towards use of

technology in Saudi Arabia and the United States investigated the increased involvement of integrating technology in every level of education.

Background of the Problem

Technology initiatives in educational settings have been the topic of research interest for the past 30 years. In the 1990s, teachers began to see computers as a part of the technology resource to use beside the traditional way of teaching, and they became known as educational technology in the classroom. In 2007, Hew and Brush provided a detailed analysis of the integration barriers that had been documented in the literature over the previous years. Although research on teacher beliefs is not new, moderately few studies have examined the relationship between teachers' beliefs and their classroom uses of technology (Pajares, 1992).

In Saudi Arabia, the government spends millions of dollars on education. Furthermore, Saudi Arabia, as a developing country, has improved the use of new technology to maintain status with other countries in this century of technological revolution. Unlike many other developing countries, the Saudis do not suffer from financial resource limitations. Despite these rich economic resources, they do not actively integrate technology in schools (Baker, Al-Gahtani, & Hubona, 2007).

In contrast, school districts in the United States, as a model of the developed country, reportedly spent \$7.87 billion on technology equipment during the 2003–2004 school year (Quality Education Data, 2004). In the ten years leading up to that, the U.S. had invested more than \$66 billion in school technology. Although many educational systems have quickly embraced digital technologies, the effective inclusion of these

technologies into teaching practice has encountered, and continues to encounter, practical and pedagogical barriers (Wood, Specht, Willoughby, & Mueller, 2008). The need for effective use of technology in the classroom is an increasingly important factor to students' success in this environment of global technological revolution.

Research Questions

Based on the framework and statement of the problem, research questions were formulated. The following questions were investigated in this study:

RQ1: What do teachers believe about the possible benefit of technology to their teaching?

RQ2: How does regular access to technology influence teachers' integration into their teaching?

RQ3: What factors shape the dispositions to advocate for technology in the classroom?

Design, Data collection and Analysis

In this study, a qualitative methodology that called for conducting semi-structured interviews with teachers in Saudi Arabia and in the United States was used. The semi-structured interview is effective when used in exploratory and descriptive research in order to probe not only what individuals say, but also what they believe to be true about a subject. In the semi-structured interview, new questions can be asked in order to gather more specific details and answers (Frey, Botan, & Kreps, 2000). Thus, the semi-structured interview approach was the selected method to complete the study. Moreover, the researcher needed to know details about teacher's attitudes and beliefs in Saudi

Arabia and the United States about using technology in their teaching and follow-up questions were essential during the interview.

The researcher used face-to-face interviews conducted in Saudi Arabia and the United States. The face-to-face interview method was used instead of an online survey method because it enabled the researcher to ask in-depth questions to better receive more exhaustive answers. Additionally, results from face-to-face interviews are more credible than online survey results (Frey, Botan, & Kreps, 2000). The target study population included teachers in Saudi Arabia and the United States.

The researcher used network sampling (i.e., snowball sampling), asking participants to refer the researcher to other participants (Frey, Botan, & Kreps, 2000). The researcher ensured that the samples were comprised of a variety of both female and male teachers. Initial communication was through phone or email. Then, the researcher was responsible for choosing a suitable place and an appropriate time to conduct the interview with each participant from a public setting to even conducting interviews via an online video networking tool like Skype.

The sample included ten participants. Guest, Bunce, and Johnson (2006) suggest that a sample between 6 and 12 interviews is adequate, if the selected group is homogenous, in order to understand and achieve the objective of the research. Therefore, the researcher in this project sought a target of ten participants to ensure enough sample diversity and size to allow completion of an adequate number of interviews.

The researchers asked the questions in the subject's native language to ensure the highest quality responses. Each interview was recorded using a tape recorder. The interviews were translated from Arabic into English for the purpose of completing the

research analysis. In addition, the researcher took notes during the interviews to help with context.

Purpose of this Study

The study had a dual focus. First, the researcher investigated the attitudes of teachers toward using technology in their classrooms. In addition, Saudi Arabia's educational technology integration was compared to that of the United States.

Definition of Key Terms

The following terms were used in this study and were defined to provide the reader with full understanding of the conducted study:

- *Attitude*: This term refers to “ a manner of acting feeling, or thinking that shows one's disposition; opinion or mental set” (Webster's New World Dictioneary, 2000).
- *Education Technology*: The study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological process and resources (Özdamlı, Hürsen, & Özçınar, 2009).
Educational technology is any technology, such as computers and other applications that can be used for educational purposes.
- *Teachers' Attitude*: Teachers' beliefs, dispositions, and opinions regarding the use of technology in the classroom (Chao-Hsiu Chen, 2008).
- *Implementing Technology*: Taking actions in order to acquire the technology.

Delimitation of the Study

The researcher decided to limit the investigation to a minor number of teachers in the two countries: Saudi Arabia and the United States. The reactions of the teachers were used to explore their attitudes towards technology in their classroom. The knowledge provided by this study may lead to future research, and the results could be generalized to other countries.

Limitations of the Study

The sample size of the research might not reflect the whole sample of the population of teachers in both countries: Saudi Arabia and the United States. Each interview has been translated into English by the researcher. The scholar is not qualified as a translator; however, the researcher worked many hours with the university's writing center best develop and transcribe each interview.

Organization of the Thesis

This thesis is organized in five chapters. In this chapter, a brief summary of the issue related to teachers' attitudes towards technology in Saudi Arabia and the United States is given. The statement of problem, research questions, and the significance of the study is presented as well. The second chapter is a review of the literature on theoretical framework, technology integrating in general in the field of education in particular, teachers' beliefs about technology integration, and other factors affecting teacher use of technology. In the third chapter, participants, materials and procedures followed to collect and analyze data are presented. The fourth chapter presents the analysis of the interviews by applying the grounded theory approach and generating themes, which emerged in the

interviews. In the fifth chapter, the finding, summary of the result, implications, recommendations, and suggestions for further research are stated.

CHAPTER II: LITERATURE REVIEW

Introduction

The purpose of this study is to examine how teachers are using technology resources in teaching practice. The study specifically investigated teachers' attitude toward using technology in their own classrooms.

This chapter provides an analysis of articles that focus on teachers' technological attitudes and the impact of their attitudes on the learning outcomes. Students require technological engagement in the classroom to better prepare for a technology infused world. Teachers are responsible for bridging the gap between what happens in the classroom and what students will be expected to achieve in their future. This generation has the right to become prepared for the work force and Miller and Van-Fossen (2008) stressed that the need for more technology integration opportunities for teachers is substantial. Hofer and Swan (2011) found that teachers with their limited training and relatively superficial curricula, most likely find the implementation of technology quite challenging. In other words, specialized technology tools and resources require substantially more content knowledge than universal tools to use in the classroom. There are many states that have student technology standards, and the No Child Left Behind legislation also mandates the use of technology to enhance the curriculum and engage students in learning (United States Department of Education, 2002). And, many states have technology requirements for the preparation of teachers. States and school districts that want to ensure that students reach technology goals should mandate an educational technology course prior to teacher certification (Rosenfeld, & Martinez-Pons, 2005).

Merging technology with learning can enhance the quality of instruction and can provide continuous assessment of students' progress. Moreover, the effective integration of technology into the classroom should happen across the curriculum. The people who create the curriculum should be more involved in the implementation of technology in the classroom (Woodward & Cuban, 2001). This would ensure that the teachers have more understanding of the technological advancements and how to use them in the classroom.

Theoretical Framework

Pedagogical beliefs and students learning is influenced by philosophical and psychological perceptions about knowledge and how it is acquired. Essentially, technology integration depends on the teacher beliefs, available technologies, and the expectations. The theory of planned behavior by Ajzen (1991) forms the foundation for the current study. The theory attempts to predict and explain human behavior in specific contexts. The theory of planned behavior has three constructs proposed necessary to predict a behavioral outcome: attitudes, subjective norms, and perceived behavioral control. Some research has promoted this theory as an appropriate framework to focus participant responses on their attitudes toward using technology (Sugar, Crawley and Fine, 2005). In essence, decision making that results in doing something or not doing something can result from attitudes and levels of motivation involved. Ajzen (2005) notes that attitudes, whether positive or negative, that are constructed out of our beliefs and experiences, are primary indicators of a person's intent to accomplish a behavior (2005). Moreover, Ajzen reveals that teachers' educational beliefs about technology are difficult to change and are based in past experience, which expands on the research of Pajares (1992) who pushed researchers to explore teacher beliefs. Ertmer (2005) emphasized in

her study that researchers still need to understand the role of teacher beliefs in their enthusiasm to use technology as well as a need for new instruments to measure diverse teacher beliefs. In 2006, Ajzen noted that to understand teachers' beliefs is to look about their attitudes and behavior. In a study of teachers who did not change their practices after targeted professional development, Palak and Walls (2009) found the teacher attitudes toward technology were the strongest predictors of whether or not they would incorporate technology rich instructional strategies into their classrooms.

Technology Integration

The agenda of most teaching reforms since the early 1980s has focused on transforming teaching and learning by increasing access to, and use of, technology in classrooms (Cuban, 2001). In the middle 1980s, educational technology included more basic electronic and non-digital tools (e.g., chalkboards, overhead projectors, video cassette recorders), and the assumption by school leaders was that these technologies required little additional training (Hofer, & Swan, 2011). However, as the second millennium begins, technology use is increasing around the world. In the education sector, technology integration started gathering momentum in 1994 and has continued. Educational technology can help students get the best education possible and make a smoother transition to the work force. Technology can act as a bridge to help students move beyond theoretical understanding. Restructuring the classroom to address 21st-century skills is important to meet the needs of students. Various studies have established that technology integration into classroom instruction is a slow and complex process influenced by many factors, such as teachers' beliefs and attitude, access to technology, and amount of support the technology requires (Inan & Lowther, 2010). The U.S

Congressional Office of Technology Assessment (OTA, 1995) recommended that effectively integrating, “technology into the teaching and learning process is one of the most important steps the nation can take to make the most of the past and continuing investments in educational technology” (p.8).

Integrating technology in education can play an important role in leveraging productivity and efficiency. The teachers who learn to integrate technology into existing curricula teach differently than teachers who did not have such training or support from the institution (Christensen, 2002). Although many educational systems have quickly embraced digital technologies, the effective inclusion of these technologies into teaching practice has encountered, and continues to encounter, practical and pedagogical barriers (Wood, Specht, Willoughby, & Mueller, 2008). The need for effective use of technology in the classroom is the most important factor in students’ success in this environment of global technological revolution.

Teacher Beliefs

Several studies advocate that teachers’ attitudes are an important element in teaching students how to best use technology to accomplish learning objectives (Christensen, 2002). In particular, teachers who held a traditional philosophy about teaching and learning tend to use moralistic instructional methods while teachers with more constructive philosophies tend to use student-centered inquiry based methods (Stoddart, & Nieferhauser, 2001). Teacher belief is one of the fundamental factors that explain technology use in schools according to different research that Ertmer, Addison, Lane, Ross, and Woods (1999), have conducted for years, but they do not take that into

serious consideration when it comes to incorporating technology. The proficiency of a teacher's technology integration can be influenced by their enthusiasm and attitudes about technology practice. The key study investigating the relationships between teachers' epistemological beliefs, pedagogical beliefs, and their instructional uses of technology was the Apple Classrooms of Tomorrow (ACOT) project on 1996. The ACOT project studied teachers who were provided with the most updated technological equipment for selected classrooms across United States. Additionally, teachers received extensive technical support and development to help them with implementing these technologies. At the conclusion of this study, Dwyer, Rindstaff and Sandholtz (1996) found extreme levels of equipment, support, and staff development were provided, however, teachers' pedagogical perspective remained limited for using technology in the classroom. The ACOT program was later updated to add the integration of the 21st century learning skills to American education.

An investigation by Windschitl and Sahl (2002) about teacher beliefs, social dynamics, and institutional culture concluded that, "technology use should be more thoughtfully considered within the context of teachers' beliefs about what constitutes effective teaching and how technology and information access can alter the traditional roles of teachers and students in the classrooms" (p. 17).

Teachers must be willing to change their role in the classrooms to realize the most success in integrating technology. Also, they must see how these technologies can fit to acquire the advantages of implementing them. Previous studies reported that teachers who were forced to use computers in their teaching ultimately gained confidence and skills (Dwyer, Ringstaff & Sandholtz, 1996).

Teachers' needs are often neglected because of the widespread perception that students' needs are especially urgent; that if students are not properly prepared in the classroom for living in a world with computers, then they will be disadvantaged (Bigum, 1998). The question is whether technology inventories in the classroom have a benefit for students' or teachers' skills. The use of technology has improved the standardized test results in some states here in the United States. In 2008, Allen stated in her book that some teachers fear being replaced by the technology in their own classrooms. But, the aim of integrating technology is to know the importance of understanding how the use of technology can improve the learning process (Healy, McCutcheon, O'Sullivan-Rochford & Carr, 2010). However, research by Kumar and Vigil (2011) has emerged revealing that pre-service teachers' beliefs are moderately confident about using the new technology for the digital natives' generation. This research also found that these pre-service teachers lacked experience and expertise in using classroom technologies, such as interactive whiteboards, and idea processors while also demonstrating a high interest in learning how to use the technology. Moreover, Schoepp (2005) found that scarcity of technology for either faculty or students was the least cited barrier. The barrier most referred to was the belief that faculty are unsure as to how to integrate technology.

Ermter (1999-2005) advocated that fundamental barriers were associated with underlying beliefs about the nature of teaching and might not be detected or easily understood, and therefore, were more challenging to overcome. In 2001, Cuban, Kirkpatrick, and Peck maintained that teachers' adoption of technology was connected to their observations about what constitutes the best methods of teaching and learning, "The

beliefs and values that teachers hold drive many of the choices they make in the classroom” (p.169).

Others Factors Affect Teachers Use of Technology

Several factors challenge schools and teachers trying to integrate the technology into the curricula. These factors are: 1) the availability of and access to computers, 2) the availability of curriculum material, 3) teachers’ beliefs, 4) teachers’ technological and content knowledge, and 5) technical, administrative, and peer support (Deborah, 2008, p. 198). The U.S. Departments of Education in 2012, recommended integrating technology as a tool into curricula for instructing and preparing students to meet the new academic standards. Wachira and Keenfwe (2010) reveal that federal agencies, national professional organizations, and teacher education agencies have voiced the need to prepare teachers to integrate technology into their teaching for decades. They also note that the teachers who may be committed to integrating computer technology in classrooms may find it challenging to face the barriers that will occur. The barriers are a lack of equipment, lack of equipment support, the organization culture, teacher beliefs and attitudes about teaching, and accepting the change to digital teaching (p. 18).

Wozney and colleagues (2006) examined the factors influencing a teacher’s decision to use technology in the classroom. They focused on the teachers’ perceived value of technology, their perceived expectations of success while using technology, and the perceived cost involved in using technology. As a result, Wonzey and others found that the impact of motivational factors offers one explanation for why increased access to computers does not necessarily lead to consequential usage of technologies in the classroom. Ertmer (1999) and Hew and Brush (2007) say there are many barriers to

integrating technology into teaching and learning. They classified technology integration barriers in two major categories: first-order barriers, which refer to obstacles that are external to teachers, including barriers such as lack of resources, institution, subject culture, and assessment; and second-order barriers, which are intrinsic to teachers and include obstacles such as attitudes, beliefs, knowledge, and skills. Pointing out that the first- and second-order barriers are inextricably linked together, Ertmer (1999), Hew and Brush (2007), suggest that it is necessary to address both types of barriers rather than addressing them separately. However, previous research from 1995 to 2006 identified six major categories of the barriers faced by K-12 schools when integrating technology into the curriculum for instructional purposes: (a) resources, (b) knowledge and skills, (c) institution, (d) attitudes and beliefs, (e) assessment, and (f) subject culture. In 2007, Hew and Brush classified strategies to overcome the barriers into five categories: (a) obtaining the necessary resources, (b) having a shared vision and technology integration plan, (c) facilitating changes in attitudes/beliefs, (d) professional development, and (e) reconsidering assessment.

In a longitudinal study built around a portable computer program, Newhouse (1999) stated that many of the common barriers associated with the adoption of the innovation were still present. Some of the barriers preventing teachers from integrating technology were poor computer literacy, lack of time, lack of confidence, and hardware malfunctions. Though the barrier of access had been overcome, others still remain.

Conclusion

This chapter provides an overview of the literature that is the catalyst of the current study. The purpose of this study is to investigate teacher attitudes toward technology.

Specifically, this study compares United States teachers to Saudi Arabian teachers to explore the relationship between their attitudes and beliefs about technology. This chapter revealed the theoretical perspective at the foundation of the current study, which is planned behavior by Ajzen. The history of technology integration in education is described and the literature reveals a need to explore teacher beliefs as a main focus in this study. Finally, the chapter provides other factors affecting the integrating technology in K-12 schools in the United States and other countries when it is come to integrating technology into the curriculum for instructional purposes. These include lack of resources, inadequate knowledge and skills, institutional barriers, assessment and subject culture. Clearly, positive attitudes from teachers toward technology have been recognized as an obligatory condition for effective use of technology in the classrooms.

Chapter Three provides a description of the research methodologies used to accomplish the study's main purpose. Study objectives are also presented.

CHAPTER III: RESEARCH DESIGN

The current study focuses on the teachers during the process of integrating technologies into the curriculum. These teachers face several obstacles when trying to integrate technology into their curricula, especially barriers created by their own attitudes. The study explores teachers' attitudes toward technology by exploring the following questions:

RQ1: What do teachers believe about the possible benefit of technology to their teaching?

RQ2: How does regular access to technology influence teachers' integration into their teaching?

RQ3: What factors shape the dispositions to advocate for technology in the classroom?

The aim of the study is to investigate the attitudes of teachers toward using technology in their classrooms. Furthermore, the study compares Saudi Arabia's educational technology integration to that of the United States (USA).

Participants/Subjects

The proposal for the current study was submitted for review by an Institutional Review Board (IRB) for studies involving human subjects in November of 2012. The approval letter was received in November and data collection was cleared to begin.

Teachers in the United States and teachers in Saudi Arabia were selected for inclusion in the current study. The researcher used network sampling (snowball sampling) to find participants for the convenience afforded by this sampling method. The scholar started with two teachers who suggested other respondents in Saudi Arabia. The interviews were done in face-to-face settings. In January 2013, the researcher traveled back to the United States to collect data from a sample of teachers in the USA using the

same snowball sampling procedure. An exploratory email and messages delivered on social networking sites were sent to all the teacher acquaintances in the USA.

Additionally, current participants also recommended potential participants to the researcher. The teachers in the USA all lived and taught in the Midwest.

Sample Size

Guest, Bunce, and Johnson (2006) recommend a sample size of between six and twelve participants if the selected group is homogenous. This sample size better allows objectives of a study to be realized. Therefore, a target goal of six total participants from the United States and six total participants from Saudi Arabia were targeted and the study ended up with five participants in each group.

Instrumentation

The study's research questions were the foundation and impetus for the interview questions (see Appendix A). The instrument consisted of 22 questions. The first six questions addressed demographic information like gender, highest academic degree attained, their position in school among other items. The initial items were followed by three questions addressing technology use in teachers' daily and teaching lives. Three questions then addressed the frequency and type of training they received, and the technology available in their teaching setting. The next three questions pertained to the things that motivate or discourage the teacher when it comes to integrating technology in their teaching, institution support, and the availability of technology in the schools and pedagogical change related to student use. The final questions measured their beliefs and attitudes about the technology such as college preparation, motivations, and confidence in using technology proficiently.

Data Collection

To conduct all interviews personally, the researcher travelled to Saudi Arabia in December of 2012. Using the snowballing sample methods, the researcher started with one teacher who referred additional teachers as potential participants. The researcher interviewed five teachers in Saudi Arabia who agreed to participate. The researcher flew back to the United States and collected the data in January of 2013 by sending email and Facebook messages to all the teachers the researcher knows in the United States to find potential participants. The researcher conducted five interviews in the United States, which brought the study sample size to 10 participants.

The respondent ages range from 25 to 45 in both countries with an average age of 35 years old. Three male and seven female participants made up the sample. Certain demographic information was not collected such as names, schools names, and socioeconomic status; however, age and gender were collected. To better ensure validity and reliability of the data, the researcher made every attempt to visit participant's classrooms to verify the technologies available and to better evaluate teacher's attitudes about the technology. The interview part of the data collection activity relies on teacher self-reporting. After the interviews, self-report observations were made in order to record what teachers actually do in their classrooms. Self-report provides the nearest data source to the actual behavior (Terence, Thornberry & Krohn, 2000) to better ensure teachers' responses are reliable.

Prior to each interview, the researcher informed potential participants of their rights during the interview. The researcher provided participants with consent information sheet in their native language. The consent document (Appendix B)

informed respondents that the interview is part of academic research for an MA degree and that all information would be confidential and solely for research purposes. The consent sheet briefly described the research, the benefits of the study, and indicated that no personal information will be collected in this study. The researcher explained to the subjects that their participation will be voluntary and that they could withdraw from the interview at any point. When participants noted that they understood their rights and agreed to be involved in the study, the researcher collected their signature indicating that the participants had been informed and that they has also consented to participate. Each participant was also provided with a copy of the informed consent agreement in his or her native language.

The researcher assigned randomly generated numbers that began with the country initial (SA, US) in order to identify each participant by the country interviewed in the research report. Each interview was conducted in less than 30 minutes. For better communication and understanding, the interview questions were translated to Arabic for teachers in Saudi Arabia. Respondents answered and described all the things they needed to say. The researcher used an audio recorder and took notes during each interview. After finishing all the interviews in Saudi Arabia, the researcher transferred audio into script and translated it into English for the purposes of completing the research.

Research Limitation

Risks to the participants in this study are minimal. No interview items were created to put any subjects at risk and the data is free from all identifying information beyond generalities in the teaching field. Each participant has privacy assurances. To minimize these risks, the interview details are private and not made available to the public. All personal information regarding participants is kept private during and after the study's completion. All documentary materials, notes, recordings, etc. will be kept in secured and locked cabinets at the researcher's home office no less than five years, even though the data is already free from personal information. The researcher specifically requested that participants not use their names. Each participant in the study was assigned a random number, and this number is the only way participants are identified. But, none of the participants are identified and none of the responses reported could get a person in trouble in their schools and in their countries.

The researcher interviewed teachers from Saudi Arabia in Arabic. Moreover, the interviews were translated into English by the researcher, who worked with the Writing Center at her university, so that the transcripts were translated accurately.

Data Analysis

Semi- Structured Interviews

Semi-structured interviews were conducted with teachers in Saudi Arabia and the United States. The semi-structured interview is effective when used in investigative and expressive research in order to review not only what individuals say, but also what they believe to be true about the subject. Semi-structured questions are preferred over a

structured interview to allow the researcher to ask follow-up questions to get more information or explanation (Lindlof & Taylor, 2002).

A scholar benefits by using a semi-structured interview instead of online survey, as it enables the researcher to ask in-depth questions and receive more extensive responses from the participants. Furthermore, the face-to face interviews are found to be more credible than online survey results (Fery, Botan, & Kerps, 2000).

As the research focused on exploring, describing, and evaluating teachers attitudes towards technology in their own classrooms, a grounded theory provides an effective methodological approach to conduct in this study.

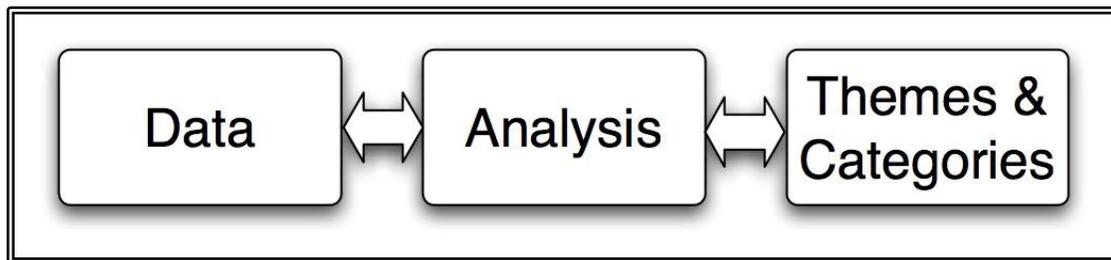
Grounded Theory

Grounded Theory was discovered by Glaser and Struss in 1967. Most qualitative studies use this theory in fields such as accounting, business management, education and social work (Charmaz, 2003) because Grounded Theory is a general methodology. Grounded Theory provides an accessible way of thinking about and conceptualizing data. Grounded Theory enables researchers to move back and forth between the data analysis and observation to provide elucidations about the correlation between repeated phenomena and conceptions (Scott, 2009). Also, Grounded Theory raises extra questions that were not outlined in the original interview questions, which occurred within the interview context.

Grounded Theory provides the best method to approach this study because the researcher used qualitative interviews, which address individual experience (Charmaz, 2003, p. 314). In this research, the participants were asked about their own experience

with technology and their attitudes about it and this exploration allows the researcher the opportunity to shape and construct meanings and actions. The process of correlating the relationship between the researcher and participants that facilitates analyzing data is called the Coding Technique (Goulding, 2005). Qualitative coding, the process of defining what data are about is the first analytic step. Coding is an essential step in Grounded Theory (Charmaz, 2003). The researcher read the interview transcripts carefully in order to find commonalities among passages and generating themes (Goulding, 2005). Figure 1 provides a graphical representation of the workflow.

Figure1: Grounded Theory Process



Summary

Accordingly, the purpose of this study was to determine teacher's attitudes toward technology by comparing teachers in both countries: Saudi Arabia and the United States. Data collections involved semi-structured interviews with teachers in both countries. The data analysis for this study was Grounded Theory.

In the next chapter, the data analysis procedures and the result are discussed in detail.

CHAPTER IV: DATA ANALYSIS

In this chapter, the researcher provides an analysis of the interview transcripts to address and answer the research questions. The researcher presents respondents' discourses that were generated from a coding phase and organized into common themes. The following section provides a comparison between Saudi Arabia and the United States related to teaching with technology. The research questions were:

RQ1: What do teachers believe about the possible benefit of technology to their teaching?

RQ2: How does regular access to technology influence teachers' integration into their teaching?

RQ3: What factors shape the dispositions to advocate for technology in the classroom?

Regular Access to Technology

To learn more about teachers' attitudes about technology, the researcher asked participants how often they used technology in their daily lives. Teachers from both countries gave answers to the researcher's questions about their use of technology, such as their internet uses, computers, smartphones, social media, emails, etc. Most teachers, especially those teachers in the 25-35 years old range, use technology almost every day and over long periods of time. Some general examples of what respondents in Saudi Arabia said about their technology uses are:

(SA1): I use the internet and computers for almost 50% of my day, and not for teaching purposes, because I think it is important for me. I'm in good relationship

with social media such as Facebook and Twitter. I also use it to send or receive emails. I'm really addicted to technology and the internet in my daily life in general.

(SA4): The use of internet is something essential in my daily life.

On other hand, the teachers who participated from the United States about their usage of technology in their daily lives said they used technology:

(US1): Every day to do school work.

(US2): 2-8 hours daily.

Technology Availability

Teachers from both countries gave positive responses about the use of technology in their personal lives. Not all of the teachers are active users of technology, such as the Internet. But when questioned about the technology used to support their teaching, almost all teachers in Saudi Arabia said they do not have any kind of technology in their classrooms that can support their teaching. Some of them had a passion to integrate and use technology, so they purchased simple equipment with their own money to embed into their curriculum. Interviewee (SA4) said:

At present, there is nothing obtained by the school or the ministry, so I purchased a laptop and projector for my teaching use.

Another interviewee (SA5) mentioned that she has some technology in her classroom, but she does not use it often:

I have a Smartboard and computer hooked up to projector, but I don't use it that much.

In the United States, the teachers have technology to help their teaching and help motivate students, and they still ask for more in their classrooms. An American participant (US1) described the technology available to him, to the students in his classroom, and what his school did to integrate more technology:

Every student has access to their own computer with limited internet access. The students also have access to technology-based tools such as dictionaries, calculators, translators, and audio-to-text dictions. We have also received a grant to purchase an iPad for every student. The iPads have arrived, but are not being utilized yet. They still are being retrofitted with security protocols.

Similarly, another teacher (US4) provided an extensive explanation about the technology available in her classroom:

I have a desktop Mac computer with a regional printer, an iPad, a document camera, a sound system complete with teacher microphones, technology to stream videos, a DVD player, CDs are played through our desktop computers for audio versions of the students' stories in their reading curriculum, we have access to two carts of 30 laptops each or 15 iPads, which are shared throughout our K-6 building and can be checked out for a 45-minute block of time.

The participants had varied technology experiences in their classrooms. The researcher found that some of the teachers in Saudi Arabia explained they are not willing to use technology because it is overwhelming since every class session or lecture should not be more than forty-five minutes. An interviewee (SA1) said:

I used the technology in the first few years of my career because I needed to impress my principal and prove to her that I'm good at teaching with technology. Over time, I lost this passion to use technology in my teaching.

In the United States, teachers are more exposed to teaching with technology and working with it on a daily basis. One teacher explained her use of technology in her own classroom:

I use technology to record daily attendance, order hot lunch for my students, find updated lessons and activities for my third graders, communicate with staff and parents through e-mail, design and compose Classroom Newsletters, stream videos for my students that substantiate curriculum areas, make databases to collect a variety of information for field trips and student behavior plans, research topics for students, reading vocabulary for each of the stories is downloaded onto Keynote and viewed full screen on slide throughout the week, and to sign out media materials or order books for my classroom from community libraries

Training vs. Self-learning

The researcher also posed questions during the interview to learn more about the teachers' training through their colleges, employers, or their own effort, which pertains to RQ3. Several teachers in Saudi Arabia complained about the lack of training they received. One of them described the training she received as follows:

I don't have any training, but I applied for some training on my own because it is something I need to learn about and master. I need to work more in PowerPoint and with the overhead projector. I also use a lot of audio programs to engage my

students with the poetry they study. In fact, all that I know about technology is through my own training or courses I take on my own.

Similarly, others participants complained about technology training:

(SA4): I learn by practicing with Microsoft Office, Movie Maker (to create education movies), and Smartboards.

(SA3): I get some training with my own money for basic things and I learn other things with practice.

On the other hand, when the researcher asked about technology training from the employer or from the education system, the teachers all agreed there is no technology training offered by their employers. This is a potential reason why most of the Saudi Arabian teachers are not expected to work with technology in their teaching. Also, this explains why most of them learn by practicing on their own. SA1 described the situation of the newest teachers who are willing to use technology in Saudi Arabia:

There is no one in the schools or from the education ministry responsible for technology training. Most of the youngest teachers began teaching with all the desire and passion to use technology, but after that, we were shocked that no one provided any training to us, so we gave up.

Some of the teachers noted that the lack of technology training by the schools is aligned with a lack of IT support when problems with technology arise. An interviewee (SA4) said:

No one provided training to teachers in the schools. I used the things I learned from my own curiosity.

All of teachers agreed that there was no training received from college while they prepared for their teaching jobs. In addition, most of them said they rarely receive any training from the school or the education system. One of them explained the type of the training provided by the ministry was all about learning theory and collaborative learning, which means all of the workshops by the ministry are all about the teaching process, standards, and learning methods. An interviewee (SA4) said:

The ministry just gives us training about collaborative learning and CORT (combined Six Thinking Hats).

Teachers notice when their colleagues work hard to learn how to use technology because they need to learn more to be better and more effective teachers:

(SA1):On other hand, when we see a teacher has all the skills we all need, we know that she prepared herself and she worked hard to get all this knowledge.

In the United States, training is provided through colleges and employers in addition to the training obtained on their own. An interviewee (US5) explained how she received training:

I received a lot of training in college and through professional development at our school.

Another teacher described her own training and professional development:

We had two professional development days in which we could choose which areas we wanted more information on. I downloaded software user guides to go through on my own so I have something to refer back to when I run into a problem. A lot of learning is informal in nature through trial and error and asking colleagues

how to do it. We also have two full-time technology professionals who go to all seven schools in our K-12 district to assist with either computer or technology issues that continually arise.

Also, teachers are more exposed to technology with all the professional development, and most of them obtain a master's somehow related to technology. For example, the interviewee US2 explained:

I am certified in online learning. I'm enrolled in a Master of Arts in Educational Technology program at Michigan State University. This helps me to integrate technology better. I had Moodle training, and special education training provided by my employer.

Most of the teachers in the United States received at least minimal training at the university level. This training helps these teachers feel more comfortable using technology in their classrooms.

(US1) I received little technology training at the university level. I believe I only took one class that dealt with technology and that was more based on making a teacher's life easier with Excel and Rubistar and not so much on expanding a student's knowledge.

However, one of the USA interviewees did not receive any training at college. She explained that she tried hard to get used to the technology and teach herself to use it.

(US4):I attended a private liberal arts college. I received no training in technology either in my undergrad or graduate classes. I am currently 2/3 through my master's degree training.

Participants in the USA largely noted that most of their training comes from the districts in which they teach, and every school has an IT or technology person to help them with any problem they have. Learning from peers and other teachers in the school was the easiest way to integrate or facilitate the technology.

(US5): We have a tech person at our school who trains us. I use technology to show information to students, have class discussion, play educational games, and build students' technology skills.

(US1): I have never been formally trained to use technology. But throughout my schooling and through professional development events, such as "21 Things for the 21st Century Educator," I have learned a lot. Also, as teachers, we bounce a lot of ideas for each other, so I learn a lot from my peers.

Obstacles to Integrate Technology

In Saudi Arabia, the respondents said they are not sure about their skill with technology in their classrooms, especially with the amount of training they received from their employers and because most of the training they obtained by themselves.

(SA2): Because there is no training provided and I don't take any courses for computer, I purchased laptop and projector and started learning by practicing to help myself in classroom.

The inhibitors that teachers face every day of their teaching can discourage them or reduce their will to implement technology. Most teachers in Saudi Arabia agreed that

time is one of the major inhibitors in integrating technology in the classroom, and part the reason for this is the amount of information they are required to teach students.

(SA1): In my opinion, the biggest thing is time. Every lecture... is 45 minute per subject and they need us to use more than standards and education strategies. So, if I need to teach by using one standard and one education strategy and connect that with PowerPoint that is so hard. So, I decided not to use the technology all the time.

Others see that the environment in Saudi Arabia's schools is not designed for technology, and the amount of students in one class can make considerable work for the teachers. SA5 said:

The environment in the school is not technology friendly. And there is too many learner in one classroom - around 40 students sometimes.

Also, one of the interviewees mentioned that there are no computer labs in the school. Another one explained her personal experience with working in different schools, both private and public schools, for nine years:

(SA3): There are no computer labs in schools and, if they do have computer labs, they are missing a lot of things. There is no overhead projector in every classroom. And if I need to use one, I should buy it with my own money and bring to the school. All that makes me give up on technology and I return to the old fashion teaching style.

(SA4): Since I taught almost six years in a private school and now I have been teaching in a public school, I found that the educational setting is different. The

public school doesn't have any technology available for the students, and the private schools have all the technology we need.

Teachers in the United States agreed with teachers in Saudi Arabia about technology and the amount of the material they should provide. US1 said:

Sometime it is just too overwhelming. There can be an overload of information or technology and you don't know where to begin. Also, it can be hard to find what we are looking for. Sometimes it seems like there is too much stuff on the Internet because you can never find what you are looking for.

A couple of teachers found that classroom management is more difficult with the use of technology, especially with students multitasking. US5 said:

The only [classroom management issue] I have really seen is students using the time for Facebook!

One of the interviewees found that her fear is the main inhibitor in her use of technology, and when she tries to fix problems in class, she loses her teaching time in the class. She listed other inhibitors:

(US4): Fear as mentioned, and being stuck in situations while using technology with my students, something going wrong and not knowing how to proceed, thereby wasting my teaching time.

After describing all the inhibitors to using technology, teachers in Saudi Arabia addressed their feelings about the ways they can be helped to work better with technology. Some of them mentioned the availability of the equipment they are looking

for, the schools' design, the Internet connection in every school, and the training they are looking for to get them out of their comfort zones.

(SA2): They can provide a cart to move technology to every single class we go to, or equip the whole school with the technology we need in teaching

(SA5): I think the design of the school needs to be more compatible with technology. Also, give me all the equipment and the tools and train me very well, and then I will be looking for the thing my students will need to succeed.

One of them stated that the curriculum is one of the factors that can give the teachers opportunities to use technology. For example, SA1 said:

We need schools and classrooms to be equipped more, starting with computers, projectors, and SmartBoards. When that happens, the teachers will use 20% information from the books and improve the collaborative learning to 80% so they will engage and know more about the subjects.

In direct contrast, teachers in United States talked about the ways technology can enhance learning for the students and how it makes their work more effective. Also, they explained that technology can increase student's success and productivity. US4 mentioned the benefits of technology:

The type of interactive curriculum and apps online is far more motivating and engaging for students than old school paper and pencil activities (although they still have their rightful place if used minimally!).

One of the interviewees even expressed a desire to have more teachers who are more eager to use technology:

(US3): It would be nice to have all the instructors on the same page, but we have some who are resistant to the use of technology.

Similarly, other participants discussed the misuse of technology and how it is positive to use technology:

(US1): It is great way to hook students and to get students involved in things that they generally would not be interested in. At times it can make your life easier....then again, at times it can make your life a disaster as well. Technology use is great when it works, but if we rely on it too much, it will end up failing at the worst time.

Teachers in Saudi Arabia mentioned that their institutions want them to work with and integrate technology, but they do not take any actions to help them get more technology or more training. SA5 stated:

Yes, they need us to use it, but they do not make any move to provide us with what we need.

One of the teachers explains the role of her principal with regard to technology integration. She noted the way the school can be more supportive to providing the technology:

(SA1): Our principal is encouraging us to work and push the technology, but she knows that we don't have the time or the training we need to master the technology better in our own classrooms. By the way, I'm also the librarian in the school, and we don't have all the material that we need in the schools for books

or educational tools to use in our teaching, so I bring some books from my own library at home to improve the students' reading.

But, in the United States, teachers are feeling great about the support they have from their institutions and how their schools offer them new ideas for using technology. Most of the participants in United States said the same about the support they had.

(US1): Yes, we are encouraged to go to conferences and try different forms of technology and teaching methods.

(US5): Yes, my school highly encourages us to use technology and keeps offering new ideas for us.

Similarly, a couple of teachers talked about the support they receive from their institutions, but not from their departments:

(US3): The institution's supportive, but the department is not.

(US4): They expect us to use technology both inside the classroom with our students and outside the classroom to prepare our lessons. We were given one iPad to use in our classroom in May 2012. At our two hour teacher training for using the iPad 2, we were told that if they don't see this iPad in the hands of kids they would take it away from us. Pretty challenging mandate when you have a class of 32 students and only one iPad!

Teacher's Attitudes

Teachers in both countries were concerned about the outcomes from using technology. Some of them, especially in Saudi Arabia, face several obstacles that resulted

in ineffective instruction. The teachers are willing to improve, but they still do not have support, training, or the accessibility to basic technology ingredients. Most of the participants from Saudi Arabia refused to use technology as part of their daily lesson plans. Only one teacher still had a passion about technology and this was largely through self motivation and initiative as this teacher explains:

(SA4): I use it to prepare my lesson plan and do everything. I mentioned before that I bought the laptop and the projector to use in the school.

But again, the contrast in the United States is stark and is clearly more positive about the daily use of technology:

(US1): I use computers every single day, not only because our kids are in an internet- based curriculum, but I'm always using the computer to show kids example of things or to find printouts for students, or sometimes just to find an answer to a question.

In Saudi Arabia, teachers tried to engage the students more in the topic they are studying, but in general, the students have not had any technology available to them in the schools as the participants mentioned, so some of the teachers asked the students to work at home on some assignments using technology. However, this request becomes more difficult when students do not have any technology available in their homes. The Internet connection in Saudi Arabia can be a major problem that these students and teachers face:

(SA2): I wish they had technology in their hands because that will relieve some of my teaching load because I'm the only one who speaks in the class. I think the school should provide technology, especially because these girls come to the

school from low socioeconomic backgrounds. The ministry should give them the opportunities to have this technology. We don't have computer labs in the school. They should also provide the computers to the teacher's rooms so we can search and prepare our lesson plans. One more issue we have in Saudi Arabia is that the internet connection is so low compared to other countries.

One of the participants mentioned the real issue with this generation. She indicated that the current generation of students was born and raised with all technology available and around them all the time. The government and teachers should encourage them to use it, even outside the class, for class work instead of doing other stuff.

(SA3): I encourage them to use it because every single girl in my classroom has an iPad or smart phone at home. So, the way schools can teach this generation will protect them from the bad usage of technology, which we hear about in the media a lot in our country.

In the United States, teachers are using all technology available to the students in the classroom. They use many applications and devices to better engage students in learning. These teachers see the benefits of technologies on students:

(US2): Students use their phones and other devices to do research and report their findings, as well as to watch class lectures on Moodle.

One teacher explained the process that makes students use technology under the parents' supervision.

(US4): I use many interactive activities in math, science, and social studies, and check out a cart of laptops so they can use these sites independently after a brief

intro and learning goal/expectation during their technology time. I also provide sites for them to check out on their own time in classroom newsletters or through parent e-mails.

When it comes to experience, technology showed the interviewees in both countries have vastly different views. For example, the researcher asked the participants about the quote “Experienced teachers do not need technology to be effective in working with students and meeting their educational needs,” and the participants’ responses were disparate. Most of the teachers in Saudi Arabia agreed with the saying, as the interviewee SA3 mentioned:

I really agree with the saying. Also, I believe in the importance of technology, but not for everything. Teachers are an important foundation in learning and teaching. In addition, the teacher should use the same language the students use, which is technology, and I believe, without the use of technology in the schools, there is a gap and missing link, especially with this generation.

One of the participants sees this quote is not correct because she sees that experience and technology are two components that connect to each other. SA4 stated:

In my view, this saying is not correct. Technology and experience make the educational process more effective.

The participants in the United States disagreed with the quote, and most of them replied that the current generation is more exposed to using technology and they expect to see it in their school experience:

(US4): It is definitely not a very wise or effective approach to education in the new millennium! Children in the United States are born surrounded by technology. Their first toys mimic technology, use technology, or rely on technology to function. Technology is second nature to them- many of the children use it effectively before they even enter school. They simply are intuitive about using technology, so for educators to exclude using something that is an engaging and natural part of their everyday lives is simply foolhardy and barbaric. Like it or not technology, is a vehicle for acquiring knowledge that they understand!

Another interviewee mentioned technology is great with education; however, the need for technology should not be central to teaching and students need more non-technology instruction:

(US1): If this is true, I think that “experienced” must mean out of touch with how students today learn. I’m not a believer that everything needs to be technology-based and I certainly see a need for non-technology instruction, but I think that technology must continue to be a part of our educational development.

The researcher also posed questions to the participants about whether their schools: provide them with all the technology they are looking for, provide all necessary support, and provide training that is satisfactory. Also, the researcher asked whether a larger administrative emphasis on teaching with technology can change their personal attitudes and beliefs about technology in teaching. The participants in Saudi Arabia are looking forward to seeing this happen in their schools:

(SA1): Personally, I accept technology in education; I’m the kind of teacher who asks about technology all the time because, in this generation and the age I teach,

they need to use technology for learning before entertainment. That is why we are left behind in education.

(SA4): I'm convinced about technology in education and that the training will make me more efficient in my skill.

Although teachers in the United States largely had positive attitudes about using technology and were satisfied with the training and the support they have, they did express a desire for something more, which US4 stated in her answer:

Sure, but the missing ingredient most forget about that is foundational to using technology resources most effectively is "time." Time to practice using it, time to experiment with it and make mistakes, time to feel comfortable and therefore confident before being forced into teaching situation with 30 onlookers who are already proficient in what is new and foreign to you, the teacher.

Furthermore, one interviewee mentioned that the availability of technology with all the training and support cannot change her beliefs about it.

(US2): It would give me a more positive attitude toward using technology, but would not change my beliefs. I knew we should be using it and I have seen its benefit. There is just a great deal of frustration when your plans are made and the performance of technology is the limiting factor.

The researcher asked the interviewees about their attitudes if their institutions gave bonuses to the teachers who used technology in the classroom. The answers varied. In Saudi Arabia, participants divided their opinions about connecting money with integrating technology or education in general. Some of the interviewees agreed that the

higher the bonuses would make them more willing to use and learn technology. Most teachers in Saudi Arabia think that they might change their attitudes about technology and provide an incentive for them to try to learn more about it. SA3 stated:

That will be a great motivator for a teacher to start learning and using technology. Some of us need this kind of motivation, not just a simple award.

Another teacher disagreed with the bonuses because the education system does not have the knowledge to connect the teachers' implementation of technology with bonuses:

(SA4): Connecting the money with the education process will make it more inferior than it is now. I prefer they think of something more motivating to teachers than that.

Moreover, one teacher in Saudi Arabia recommended having training during weekends to raise the bar for the training instead of offering bonuses:

(SA1): Because it is not about the money it is about the time for training. If the school gives us time to learn, even if it will be over the weekend, that will be great.

In contrast, most of the participants from the United States agreed that they would be more likely to use technology if there was extra money added to their salaries because it will pay for the time they spend in training or after school to learn more about technology.

(US2): I would be more positive about using technology because, with a higher salary, all the extra hours I put in with training and after school setting up would pay off monetarily.

Furthermore, the scholar asked the participants if they would change their attitudes about technology after they gain more knowledge of using technology (e.g., via training). Almost all the interviewees in Saudi Arabia agreed they will change if they have all the training, tools, and the curriculum that can help them integrate technology effectively:

(SA4): Of course, yes, it will save my energy and my time to deliver the information to the students.

(SA3): I think it is important to have everything from training and tools available around us. Also, have the content that can be applied to our conservative society.

Meanwhile, teachers in the United States all agreed about changing their attitudes about technology use in their teaching.

(US4): Sure, but mostly I just need time to practice what I've already been taught so I can use it without always having to look things up.

(US2): The more I learn [about technology], more I want to use it.

This chapter provided results related to the teachers' attitudes and problems in depth regarding the integration of technology. Teachers in Saudi Arabia complained about the lack of technology in their schools. In contrast, they spend much of their time using technology for nonteaching purposes. Teachers in the United States have the

technology they need in their schools, but they request more. Another common theme emerged between the two countries related to obstacles that discourage the participants from integrating the technology more. Specifically, participants want more time to learn to use technology. The participants had common themes emerge surrounding the amount of training, the availability of the equipment and software, and classroom management issues as well. These responses were identified, grouped, and coded. These interviewees were coded SA1:5 and US1:5.

Chapter Five provides an examination of the qualitative results to generate significant answers to the study's research questions and derive conclusions and implications, as well as recommendations for future research.

CHAPTER V: CONCLUSIONS, FINDINGS, DISCUSSION, AND RECOMMENDATIONS

After a brief summary of the study, this chapter provides a discussion of the study findings, draws conclusions, and proposes recommendations for both implementation of teachers' attitudes towards technology in Saudi Arabia and the United States.

Summary of the Study

Technology has increasingly become an important part of education in the past few decades, but it is still often considered innovative to incorporate into schools. Teachers have been the main focus during the process of incorporating technology. The researcher conducted this study to better understand teachers' attitudes and to examine the factors that encourage or impede teachers from integrating technology. In this study, the researcher investigated teachers' attitudes and the influence of other factors toward technology integration in the field of education by comparing Saudi Arabia to the United States.

The theory of planned behavior by Ajzen (1991) provides the framework to focus participant responses on their attitudes toward using technology. In this theory, Ajzen postulates that attitudes, whether positive or negative, come from our beliefs and experiences. Therefore, a teacher's belief about technology can be difficult to change because these beliefs are based on past experience.

A descriptive qualitative research data collection was employed to collect data from teachers in the western region of Saudi Arabia, and teachers from a Midwestern state in the United States. Data was initially collected using semi-structured interviews with 10 teachers from both countries.

Discussion of the Findings

The study was guided by three research questions. This section addresses the questions partly by summarizing key results and partly providing interpretations of the results.

1- What do teachers believe about the possible benefit of technology to their teaching?

Teachers from both countries agreed there are positive educational benefits in using technology. In Saudi Arabia, one of the teachers mentioned that she had some technology in her classroom, but she does not use it. Another teacher in Saudi Arabia was seeking basic technology in his schools to use it for the students' benefit. The Saudi Arabian teachers agree that technology can motivate the students and they are willing to integrate more if they can. On other hand, teachers in the United States had a variety of technology available to them in their schools. Teachers in the U.S. are exposed to teaching with technology more on a daily basis. A few respondents from Saudi Arabia recognized that the curriculum was one of the influences that gave the teachers more opportunities to use technology. Whereas teachers in the United States mentioned ways that technology can enhance learning for students by keeping students engaged and making their work more effective. Also, the US teachers agreed that technology can increase students' success and productivity, which has been noted by the U.S Department of Education as far back as 2002, with a report that technology can enhance the curriculum and help engage students. Similarly, Saudi Arabian teachers and some

teachers in the United States resist using technology even though they know the benefit of using technology. In Saudi Arabia, teachers are willing to use technology and their institutions also want them to use technology. However, there is no action being taken to provide them with the technology they need. A teacher in Saudi Arabia mentioned that the roles of the principals are so important to implement technology in schools.

One of the participants in Saudi Arabia stated that she had a passion to use technology, so she bought the laptop and the overhead projector to use for her teaching. Since in Saudi Arabia the students do not have any technology in the schools, some of the teachers assigned them to do their work at home not knowing if the students have access to technology or not. Other teachers from Saudi Arabia see this as a concern for students, especially for students who come from a low socioeconomic backgrounds. Also, many teachers in the United States are using all the technology devices available to them to engage the students in classrooms with good results, which is consistent with the findings of Mouza (2008).

2- How does regular access to technology influence teachers' integration into their teaching?

Many of the respondents in this study have much experience with technology and use it in their daily lives. Teachers in Saudi Arabia and in the United States ranging from 25-35 years old, had access to technology such as internet, computers, smartphones, etc. and this technology consumed 50% of their daily lives. Teachers in Saudi Arabia expressed that the technology is essential in their life especially in Saudi Arabia where the standard of living is known to be high. On the other hand, teachers in the United States used their technology for work and pleasure ranging from two to eight hours daily.

Teachers in Saudi Arabia mentioned much about their training with regard to educational technologies. These Saudi teachers feel left behind in educational technology even though they are comfortable using it in their personal life. Most of these teachers complained that no one provided them with training or prepared them to use technology in education. To integrate technology into education, there needs to be a great amount of training. And the lack of training for teachers in Saudi Arabia begins in college while they prepare to be teachers where they receive no instruction for teaching with technology. In contrast, teachers in the United States were more exposed to working with technology in schools. Also, some of the U.S. teachers have gone on to earn a master's degree to advance their teaching with more knowledge about the modern sciences such as education technology. This finding consistent with what Christensen found in 2002, that teachers who learn to integrate technology into existing curricula teach differently than teachers who not have training or support from their institution.

Additionally, one teacher (US1) had much training at the college level while most of the rest had limited college level experience learning educational technology, which is a very similar experience to teachers in Saudi Arabia, who experience a lack of preparation at the college level to use technology in teaching. Even without the expectation to use technology, one teacher from the US overcame her fear and took it on herself to learn and to attend more professional development, which confirms the findings of Dwyer, Ringstaff & Sandholtz (1996). Finally, there is no connection between the time teachers spend in using the technology around them and the amount they use the technology in their instruction.

3- What factors shape the dispositions to advocate for technology in the classroom?

Teachers in this study believe that their pedagogy will not change. Teachers in both countries agreed that technology can provide an important means to overcome many obstacles teachers or students face. The teachers from Saudi Arabia are not sure about their technology skill when it comes to teaching because they do not receive any training, so it is hard for them to consider teaching with it. The teachers face a variety of inhibitors every day of their teaching career, and they work hard to reduce them or deal with them. All of that can affect their proficiency in teaching. Most of these teachers find that available class time is the major discouraging factor for them; they have a huge amount of information they are required to teach and they need to apply many standards or educational strategies at the same time. With better training, these teachers note that they would be more prepared to use technology and also more proficient, which can alleviate the fear of running out of time. By comparison, teachers in the United States seem to have the same issue with little time and the amount of the material they need to deliver to the students. There are a lot of technological tools in education that can overwhelm teachers. This finding is consistent with barriers that Newhouse (1999) identified in previous research.

Obviously, teachers in Saudi Arabia face the same general obstacles as teachers in the United States and they provided some ideas to change their views about technology. Teachers in Saudi Arabia are willing to have some basic equipment in their schools; the reason they do not have these technologies is because the buildings or the schools' environments are not technology friendly. For example, Internet connections are not available to teachers in Saudi Arabia in the schools even though these teachers desire having it. Curricula need to be more focused on technology integration to provide more

of an impetus for using technology. By contrast, teachers in the United States believe that technology can enhance the students' learning and productivity, which makes them more eager to use the technology in their classrooms. They also expressed the schools' roles in bringing all teachers to the same level of knowledge to use these technologies, even if there are some teachers resisting it.

Conversely, teachers in Saudi Arabia asked for more support from their schools about technology integration; some teachers are looking for actions to be taken to change their views about technology. Nevertheless, a majority of teachers in the United States feel very positive about the support they receive from their institutions. Also, the US teachers noted that they are encouraged to attend conferences and to try different teaching methods using technology. Still, some teachers experience much support from their institutions, but little to no support from their department.

Technology can play an important role in leveraging productivity in education. With the need for technology increasing every single day, many developed countries seek to implement it in education. The United States has been on a path towards successfully implementing modern technology since the 1990s. Saudi Arabia has many valid reasons to encourage technology adoption; the key objective of promoting the implementation of technology is to close the digital gap between Arab countries and the developed world (Baker, Al-Gahtani, & Hubona, 2007). A major objective of the Saudi Development Plan of the 1990s has been to develop general education to deal with technological change and with rapidly changing social and economic conditions (Baker, Al-Gahtani, & Hubona, 2007).

The theory of planned behavior predicts human behavior based on supposed relationships among attitudes, norms, and beliefs. According to Ajzen (1991), one's attitudes towards a behavior, coupled with prevailing subject norms and with perceptions of behavioral control factors, all serve to influence an individual's intentions to perform a given behavior. Teachers in both countries agreed that technology has controlled environment factors and that educational technology is a complex process (Özdamlia, Hürsen, & Özçinarb, 2009). Furthermore, teachers in Saudi Arabia are not being prepared enough to use technology. Özdamlia and colleagues (2009) mentioned in their study that colleges and universities should increase the amount of educational technology courses.

A significant finding of this study is the amount of time that teachers spend using technology in their daily lives. The NEA (National Education Association) in 2008 revealed similar findings when they noted that 74% of teachers responded that their access to computers, the Internet, and instructional software was "adequate" to do their jobs and almost 94.6% of the respondents reported additional access to computers and the Internet at home.

Teachers in Saudi Arabia complained about a lack of resources, a lack of administrative support, and technology problems. This study finding is similar to what Becker (1994) observed over 19 years ago in the USA that even among exemplary users, barriers are known to exist. Saudi Arabia appears to be following a similar early year trajectory as was experienced in the United States about 20 years ago. Some of the participants used words such as "fearful." Teachers are afraid of navigating through technology and potentially failing, especially in the front of their students. This finding suggests that professional development should focus first on increasing teachers'

knowledge and skills, which can then help increase their confidence and reduce the fear associated with using technology (Ertmer & Ottenbreit-Leftwich, 2010). Most of the teachers in this research mentioned a lack of training as a reason for the amount of implementation, especially in Saudi Arabia. That result confirms what Drexler, Baralt, and Dawson (2008) found when they noted that the lack of professional development is an impressive reason for the lack of technology integration in education. In a recent report on teacher professional development in the United States, the National Staff Development Council advised educators to provide professional development in more current and authentic ways: “It is time for our education workforce to engage in learning the way other professionals do continually, collaboratively, and on the job to address common problems and crucial challenges where they work” (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009, p. 2). Most of the participants have a good relationship with Web 2.0 technologies such as blogs, wikis, etc, but many of them have yet to develop strategies to introduce this technology to their classrooms. Teachers should be introduced to the idea of joining and/or developing their own professional learning networks (PLN; Perkins, 2010). Although most of the teachers today are quick to distinguish the importance of technology use in their classrooms, various barriers can block implementation efforts (Roblyer, 1993). Most barriers come from the teachers’ personal fears.

Conclusions and Implications

Technology has been a field of research in education for many decades. In this study, the researcher wanted to add some portraits to what was already known about teachers’ attitudes toward using technology in Saudi Arabia and the United States. This

section presents conclusions and implications of the results of the study of teachers' attitudes and beliefs about technology.

Based on the findings of this study, integrating technology in Saudi Arabia is still in its initial stages, as has been shown previously. Teachers need a vast amount of change according to the theory of planned behavior. Ertmer (2005) emphasized the need to understand the role of teachers' beliefs. In addition, Ajzen (1991) suggested that to understand teachers' beliefs about technology, we need to look at their attitudes and behaviors.

Training devoted to technology was a problem in Saudi Arabia even though it is a wealthy country where technology could easily exist in education. The researcher was unable to ascertain where technology in education fits in the Saudi Arabian education budget. The Saudi ministry must take an active role in schools by offering professional development and training to teachers on required skills for using technology in teaching if a change is going to occur. Therefore, there is a serious need for more efforts from the policy makers to help teachers enhance their use of technology in instruction more. This need was supported by the result of the comparison in this study, especially the finding that teachers need more opportunities to learn about technology and to change their views on integrating it into their teaching. Also, policy makers in Saudi Arabia might seek to provide professional development on how class time could be organized to allow more flexibility for the teachers to integrate and use technology.

Implications can also be drawn from the findings of the study regarding factors limiting technology use. The more practically oriented factors may be minimized or

eliminated by changes in the infrastructure, especially through offering more professional development, support, and possibly enhanced internet connections.

One teacher expressed apprehension about the moralities and values that technology in schools brings into the Saudi Arabian culture, which is considered Islamic and conservative. Therefore, the ministry could offer programs to teachers and students about the morality and cultural use of technology in general to help establish parameters. Some studies suggest that cultural conditions should be considered when technology transfers from industrialized societies into developing societies (Thomas, 1987).

Limitations

Some limitations were noticed regarding the methodology of this study. One limitation with regard to the context of this study was that it focused on teachers in Saudi Arabia and the United States; therefore, the results may not be generalizable to others teachers or other countries or cultures. Indeed, generalizability should not be the main aim in a qualitative study; instead, transferability (paralleling generalizability) of the finding is of more importance, and it is up to the reader to decide how applicable the findings are in their own context (Guba & Lincoln, 1989, 2004). The aim of this study is to gain an understanding of teachers' attitudes and beliefs about technology in the context of the two countries studied. On the other hand, the sample size of this study is one of the limitations of this study. The limited time in a semester only allowed for the researcher to focus on 10 participants overall.

An added complication was that the interview questions were planned in English, yet the interviews were conducted in Arabic for the teachers in Saudi Arabia. Data were then translated back to English and thus required some translation work. These

conversions added much time and affected the process, especially when deciphering actual response meanings. The researcher did the translations with help from the university writing center for English vocabulary.

These limitations were understood during the interpretation of the results and implications in this study.

Recommendations

In view of the finding of this study and conclusions arising from them, the following recommendations for policy and practice are provided.

1- There is a relationship between the technology and teachers' attitudes toward technology that suggest establishing a regular program for professional development for teachers in Saudi Arabia to help these teachers to improve their skills and knowledge to use technology for instructional purposes. The policymakers in Saudi Arabia should provide sufficient funding to provide more technology workshops for teachers.

2- Most of the teachers in Saudi Arabia felt that the use of technology neither fits with existing curricula or the available class time. Policymakers and administrators should provide additional planning time for teachers. Decreasing the teachers' load can help attain more time as well. Teachers could be assigned non- instructional hours to explore and develop methods of teaching and curricula that use technology.

3- Teachers complained about the amount of resources they have access to in schools. The policy makers and administrators can take more initiative regarding allocating funds to provide enough computers in schools, and, most importantly, more professional development to use available technologies.

Recommendations for Further Study

1- With some modifications, this study can be implemented in other educational settings and cultures. Also, the methodology designed for this study may be used to repeat this study over time or with a larger sample size.

2- Since the current study focused only on teachers' attitudes toward technology use, future research may consider studying students' attitudes about technology in their classrooms in the same setting to provide more of an accurate portrayal of the classroom experience.

3- This study used a qualitative research method to provide in-depth information. Future researchers need to consider using qualitative and quantitative research method for measuring teacher and student attitudes about technology (Johnson & Onwuegbuzie, 2004).

To conclude, this study hopefully has contributed to the growing body of knowledge in the field of teachers' attitudes about technology in Saudi Arabia and the United States. Ajzen's (1991) theory of planned behavior was applied to visualize teachers' beliefs in this setting. The outcomes of this study provided an optimistic starting point for making changes in Saudi Arabian teachers' attitudes towards the use technology. Moreover, the study can lead to other areas of examination to further expand research in new and probably better ways of instruction by using technology in the context of Saudi Arabia and other countries.

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Appendix A: Semi-structured Interviews: Questions for Teachers (English Version)

Potential Structured Interview Questions

Randomly Generated Number _____

- 1- Age: () under 25, () 25 – 35, () 35 – 45, () 45 and up.
- 2- Gender: a. Female() b. Male ()
- 3- What was your major in college?
- 4- What is your highest academic degree?
- 5- What is your position in school?
- 6- How many years of teaching experience do you have?
- 7- How often do you use a computer in your daily life?
- 8- A) How often do you use a computers (Technology) and internet in your teaching?
- 8- B) Describe the kinds of technology that you have available in your setting.
- 9- Did you have any training for using technology in your instruction? Please explain.
- 10- A) Who provides technology training to you? Do you use technology in your teaching? How so?
- 10- B) Describe the university training you received.
- 10 - C) Describe any training you've received during your teaching career provided by your employer.

10- D) Describe any technology related professional development training you obtain by yourself

11- Does the amount of training develop your skills well enough for you to use technology in your teaching?

12- What are possible inhibitors; or, what discourages you from integrating technology in your own classroom?

13- What are the possible factors that can encourage you to use technology in teaching?

14- Does your institution support you in using technology inside or outside the classroom? Explain.

15- How often do you use computers to assist your teaching?

16- Do you let your students use the technology available to them in learning? (If yes, please describe an example of how your students use technology in your classroom)

17- What you think about the saying “Experienced teachers do not need technology to be effective in working with students and meeting their educational needs”?

18- If the institution provide you all the technology equipment, all the support, and training that satisfies you, will that change your personal attitudes and beliefs about technology in teaching?

19- If the school gave teachers who facilitate technology in their own teaching a higher salary, would that change your attitudes about teaching with more technology?

20- Do you think your attitudes about the importance of technology will change if you learn more about it?

Appendix A :Semi-structured Interviews: Questions for Teachers (Arabic Version)

أسئلة المقابلة الشخصية

الرقم العشوائي _____

١- العمر _____

٢- النوع: أ. أنثى () ب. ذكر ()

٣- ماهو تخصصك العلمي؟

٤- ماهو/هي أعلى مؤهل علمي حصلت عليه؟

٥- ماهو/هي مرتبتك في هذه المؤسسة العلمية؟

٦- كم هو/هي عدد سنوات خبرتك في التدريس؟

٧- أوصف لي مدى استخدامك للحاسب الآلي في حياتك اليومية؟

٨- أ) كم سنة قمت بها بالتدريس باستخدام الحاسب الآلي والانترنت؟

ب) ماهي التقنيات التي تتوفر لك داخل الفصل الدراسي؟

٩- ماهي التقنيات التي تعلمت أو تدربت على استخدامها في مجال التعليم وكانت سببا رئيسيا لاستخدامها في عملية

التدريس؟

١٠- أ) من هو المسئول عن التدريب الذي حصلت عليه؟ هل تستخدم ماتعلمته بشكل مباشر في التدريس؟

ب) هل حصلت على تدريب من قبل الجامعة، أصف لي ذلك.

ج) هل لك أن تصف لي التدريب الذي حصلت عليها من خلال وظيفتك الحالية.

د) هل لك أن تصف لي التدريب الذي حصلت عليه بمجهودك وتطلعك الشخصي.

١١- هل التدريب الذي حصلت عليه لاستخدام التكنولوجيا كجزء من العملية التعليمية جعلك أكثر تطوراً ومتقبلاً

لأستخدام هذه التقنيات في التدريس؟

- ١٢- ماهي الاسباب في رأيك التي يمكن أن تعيق مشاركتك في استخدام هذه التقنيات؟
- ١٣- ماهي العوامل في رأيك التي يمكن أن تشجعك على المشاركة في استخدام التكنولوجيا ضمن العملية التعليمية؟
- ١٤- هل المؤسسة العلمية التي تنتمي إليها تدعم وتشجع على استخدام التكنولوجيا كجزء من العملية التعليمية؟
- ١٥- في تقديرك الشخصي، كم هي عدد المرات التي استعنت بها بالتكنولوجيا في التدريس؟
- ١٦- هل تعطي الطلاب الاحقية بأستخدام التكنولوجيا لدعم تعلمهم؟ (عند الاجابة بنعم ، هل بإمكانك أن تصف نوع وكيفية استخدام التكنولوجيا)
- ١٧- ماهو اعتقادك في المقولة " المعلم ذو الخبرة ليس بحاجة لاستخدام التكنولوجيا ليكون فعال في تأديه عمله مع الطلاب وتلبية احتياجاتهم التعليمية"؟
- ١٨- إذا وفرت المؤسسة التعليمية كل ماتحتاجة من تكنولوجيا، الدعم اللازم، والتدريب الذي يجعلك قادر على إدارة هذه التكنولوجيا. هل يغير من معتقداتك ومدى تقبلك لاستخدام هذه التقنيات كجزء من العملية التعليمية؟
- ١٩- إذا المؤسسة التعليمية أضافت علاوة على راتب المعلم عند استخدامه التكنولوجيا (تقنيات التعليم) كجزء من العملية التعليمية، هل هذا سوف يكون سبب في تغيير وجهة نظرك في استخدام التكنولوجيا؟
- ٢٠- هل من وجهة نظرك ، معتقداتك عن اهمية التكنولوجيا في التعليم سوف تتغير إذا قمت بالتعلم أكثر عن كيفية استخدامها ودمجها من خلال المنهج الدراسي؟

Appendix B: Consent Sheet for Teachers (English Version)

Information and Consent Sheet

Grand Valley State University

College of Education / Education Technology

Asma Alharbi, a master's candidate in the College of Education, is conducting a study to determine teachers' attitudes toward using technology in the classroom. The title of this study is "Teachers' Attitudes Toward Using Technology in the Classroom: Case of Study in Saudi Arabia and the United States."

I will be interviewed by Asma Alharbi. During this study, I will be asked to answer various questions. It is estimated to take between 20-30 minutes. I understand that my participation in the study is VOLUNTARY. I may choose to stop and withdraw from the interview at any point, for any circumstances. The interview will be recorded for research purposes. All information obtained from the interview will be confidential. There will be NO budgetary considerations or payments for my participation in this study. The researcher is responsible for traveling to Saudi Arabia to do the interview and for transportation inside the United States.

Please know that the result of the study will be published as a part of Asma Alharbi's master's thesis. This thesis paper will be available at various library systems throughout the United States. Copies can be requested directly from Grand Valley State University beginning in May 2013.

If I have any further questions about this study, I may contact the researcher at

(+966)-506-687-279 / (+1) 571-239-1124 or by emailing somaa.alharbi@gmail.com. I understand that this study has been reviewed and approved by Institutional Review Board (IRB) for Studies Involving Human Subjects at Grand Valley State University. For questions or problems regarding research subjects, contact the Institutional Review Board Protection of Human Subject at (+1) 616-331-3197 or email at hrrc@gvsu.edu

I have read all the above form, and I understand that I can withdraw at any time and for whatever reason. I consent to participating in today's interview.

Participant's Signature

Date

Interviewer's signature

Appendix B: Information and Consent Sheet (Arabic Version)

موافقة على معلومات بشأن دراسة بحثية

جامعة جراند فاللي ستيت

كلية التربية (قسم تكنولوجيا تعليم)

موافقة علي معلومات بشأن دراسة بحثية

اسماء محمد الحربي، طالبة ماجستير في كلية التربية قسم تكنولوجيا تعليم، جامعة جراند فاللي ستيت، تجري حاليا دراسة للتعرف على موقف المعلمين من استخدام التكنولوجيا كجزء من العملية التعليمية مقارنة معلمين ومعلمات بالمملكة العربية السعودية والولايات المتحدة الامريكية.

سوف تتم مقابلتي للطالبة: اسماء الحربي وسوف يتطلب مني الاجابة على عدد من الاسئلة المختلفة. المقابلة سوف تستمر مابين عشرين الى ثلاثين دقيقة، وأني اتفهم أن مشاركتي في هذه الدراسة مشاركة تطوعية. ولدي كامل الحق في التوقف أو الانسحاب من المقابلة لاي سبب من الاسباب. علما بأن هذه المقابلة سوف يتم تسجيلها لاغراض البحث.

لن يكون هناك أي ميزانية أو مدفوعات لمشاركتي في هذه الدراسة. الباحثة سوف تكون مسئولة عن تكاليف السفر الى جدة وتكاليف الانتقال داخل الولايات المتحدة الامريكية.

وسوف تنشر نتائج هذه الدراسة كجزء من أطروحة الماجستير للطالبة أسماء الحربي. وستكون متاحة في مختلف نظم المكتبات الالكترونية في جميع أنحاء الولايات المتحدة الامريكية. يمكنك الحصول على نسخ مباشرة من مكتبة جراند فاللي ستيت في بداية مايو ٢٠١٣.

إذا كان لديك أي أسئلة أخرى حول هذه الدراسة، يمكنك الاتصال بالباحثة من خلال الاتصال بالهاتف (+966)-506-

279-687 / (+1) 1124-239-571 أو ايميل الباحثة somaa.alharbi@gmail.com

أنفهم أنه قد تم مراجعة هذه الدراسة والتي وافق عليها مجلس المراجعة التأسيسي (IRB) للدراسات المتعلقة بالجوانب

الإنسانية في جامعة جراند فالسي ستيت. للاستفسار أو الأسئلة المتعلقة بالدراسة، يمكنك الاتصال بمجلس المراجعة

التأسيس لحماية الإنسان الخاضع للتجارب (IRBPHS) على الرقم (+1) 3197-331-616 أو ايميل

hrrc@gvsu.edu

أقر بقراءة هذه الاستمارة وبإمكاني الانسحاب في أي وقت، ولأي سبب كان، وأنا أوافق على المشاركة في مقابلة

اليوم

تاريخ المقابلة

توقيع المشارك

توقيع المقابلة

Figure 1: Data Analysis by Grounded Theory

