CONCERNS AND PROFESSIONAL DEVELOPMENT NEEDS OF FACULTY AT
KING SAUD UNIVERSITY IN SAUDI ARABIA IN ADOPTING ONLINE TEACHING

by

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B.A., Teachers' College, Riyadh, Saudi Arabia, 2005

M.S., Kansas State University, Manhattan, KS, 2011

AN ABSTRACT OF DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Curriculum and Instruction

College of Education

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Abstract

With the number of students at King Saud University exceeding 60,000, the university faces a need to adopt online teaching. The purpose of this study was to investigate the concerns of the faculty in the nine departments of the College of Education at King Saud University regarding the adoption of online teaching and to relate their concerns to their professional development needs.

The Concerns-Based Adoption Model (CBAM) was utilized as a theoretical framework, and a non-experimental, cross-sectional survey design was used to collect the data. The data were obtained from 296 faculty members, which was a response rate of 66%.

Respondents' stages of concern 0-2 (Unconcerned, Informational, and Personal) were the highest, while stages 4-6 (Consequence, Collaboration, and Refocusing) were the lowest. The highest stage of concern was stage zero (Unconcerned), with a 96% percentile score. This indicated that respondents had little concern about or involvement with online teaching. The second highest stage score was stage one (Informational), with a 90% percentile score. This indicated that the respondents wanted more information about online teaching. Additionally, stage six (Refocusing) tailed up 15 percentile points, which indicated that respondents might be resistant to online teaching.

A one-way MANOVA test result ($p = .047$) revealed a statistically significant difference between respondents' age and respondents' concerns in adopting online teaching. The statistical significance differences were found in stage zero (Unconcerned) ($p = .041$) and stage six (Refocusing) ($p = .018$).

Another one-way MANOVA test results ($p = .004$) showed a statistically significant difference between respondents' gender and respondents' concerns in adopting online teaching. The statistically significance differences were found in stage zero (Unconcerned) ($p = .035$) and stage three (Management) ($p = .001$). t-test results indicated that female participants had a higher concern on both stages than male participants.

Additional one-way MANOVA test results ($p = .004$) also indicated a statistically significant difference on the participants' concerns when adopting online teaching based on their department association. The significance value was found in stage three (Management) ($p = .005$). Another one-way MANOVA test showed a statistically significant difference on the concern based on the academic rank ($p=.053$). The significance values were found in stage one (Informational) ($p = .001$), stage two (Personal) ($p = .002$), and stage three (Management) ($p = .002$).

Finally, three MANOVA tests indicated statistically significant differences: First, on participants' use of technology in teaching based on their prior instructional technology use ($p = .017$); second, on participants' use of technology in teaching based on their perception of technology-related professional development needs ($p=.031$); third, on participants' use of technology in teaching based on their attitudes toward online teaching ($p=.004$) and ($p=.002$).

The study concluded with recommendations for future studies and for King Saud University regarding designing and implementing training programs to improve the faculty adoption of online teaching.

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Dedication

To my father, Dr. Abdulaiz, for teaching me the value and the sacredness of education for the individual and for the society. To my mother, Hussah, for showing me how to love, care, and sacrifice. To my wife and soulmate, Reem, for completing my life by sharing it with me. To my daughters, Fahdah and Yara, for making me smile every time I see them.

Chapter 1 - Introduction

Chapter Overview

This chapter presents an overview of the study's research context. It begins with an exploration of the major needs that make the adoption of online teaching crucial to the development of Saudi Arabia. Next, the statement of the problem, purpose, and significance of the study, and the research questions are provided. Finally, the limitations and delimitation of the study are presented, along with the definition of terms and abbreviations.

The Need for Online Teaching in Saudi Arabian Higher Education

"Online teaching," "e-learning," "online learning," and "distance education" are terms that are often used interchangeably (Mason & Rennie, 2006; Moore & Kearsley, 2005). Moore and Kearsley (2005) provide an encompassing definition by stating that:

> Distance education is planned learning that normally occurs in a different place from teaching, requiring special course design and instruction techniques, communication through various technologies, and special organization and administrative arrangements. (p. 2)

Education is a top priority in Saudi Arabia, and it receives a large proportion of the government annual budget. In 2014 the spending on education reached 25% of the total budget expenditure, including construction of three new universities, major refurbishments of other universities and upgrading of hundreds of new schools and children's sports centers across the

country ("Saudi Arabia Record Budget for 2015," 2015). In addition to what was allocated annually to education, King Abdullah approved a five-year plan worth more than $21.33 billion to develop the education sector. The plan included building 1,500 nurseries, training for 25,000 teachers and establishing educational centers and other related projects ("Saudi Arabia approves $21 billion five-year education plan," 2014). King Salman, King Abdullah's successor, supports the plan.

Nonetheless, the existing education system is inadequate to fulfill the present higher education needs of the population and even less suited to fulfill the needs of future generations (Alrashidi, 2013). In 2005, the Ministry of Higher Education initiated the King Abdullah Scholarship Program that awarded scholarships to more than 111,000 students. All the awardees were sent to universities outside Saudi Arabia (Naffee, 2014). Currently, there is a strong need for online teaching in Saudi Arabia as an important tool to improve higher education. Fifteen universities have partnered with The National Center for E-Learning and Distance Learning to upgrade their systems to accommodate online teaching. There are five reasons for the need for online teaching in Saudi Arabia:

1. Population growth.

2. The growth in the use of the Internet and social media.

3. The unavailability of a sufficient number of educational facilities.

4. The dispersion of the population over a large area.

5. Cultural factors and gender.

Population Growth

The total Saudi population is over 27 millions and most of them are relatively young, with 27.6% under the age 15 and 19.3% between 15-24 years of age (CIA, 2014) (see Figure 1.1). As a result of this rapid population growth, the number of students enrolled in higher education institutions has also grown rapidly (Alkhalaf, 2013; Alkhalaf, Drew, Nguyen, & Alhussain, 2013). Saudi universities struggle with the issues of over-enrollment, lack of the facilities to provide appropriate educational services to the students, and the unbalance between the number of graduates in different academic fields and the need to meet the requirements of national development programs (Algahtani, 2011).

Educational institutions capacity growth rate has not been sufficient for the enrollment demand, which has created overcrowded classes and decreased quality of education. The Ministry of Higher Education had to increase the number of public universities from seven public universities in 1998 to 20 public universities in 2009 and licensed more than 20 private higher educational institutions. However, the increase in universities and colleges was not sufficient to fulfill the higher education needs of Saudi Arabia. According to Alrashidi (2013)

> Despite the fact that the number of colleges and universities in Saudi Arabia continues to grow, there does not seem to be any realistic way the traditional educational system can possibly expand rapidly enough to accommodate the needs of the increasing Saudi population. (p. 48)

This rapid enrollment growth has required educational institutions to provide additional opportunities. As a result, they face the need to increase the use of technology to provide access to a greater proportion of students (Saif, 2005). According to Al-Khalifa (2009), "[With] the

increasing population rate and expansion of the main cities in Saudi Arabia, distance education would appear to be an obvious means of widening access and offering quality and flexibility in programs of choice" (p. 3). The implementation of technology to improve the education systems has high potential for success in Saudi Arabia because the population already uses it extensively.

Figure 1.1 Current Population of Saudi Arabia by Age (CIA World Factbook, 2014)
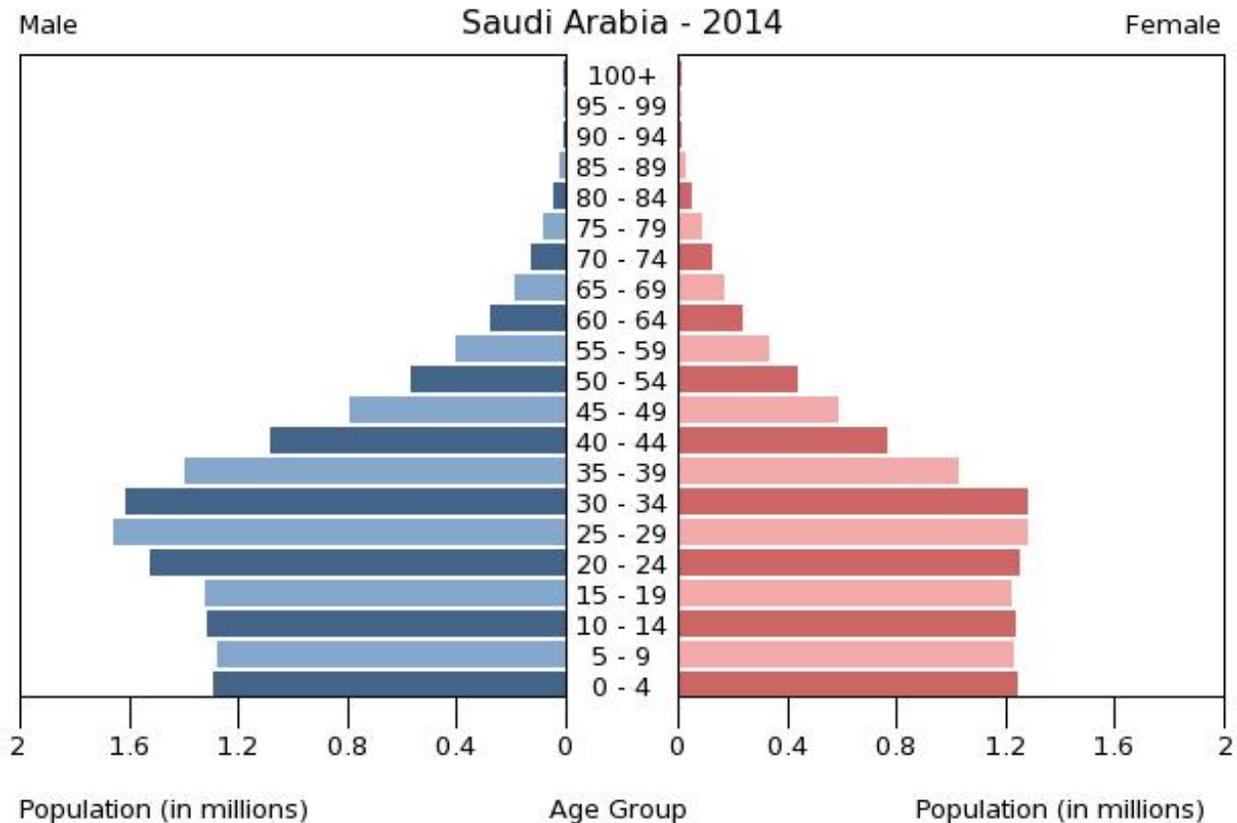
The Growth in Use of Internet and Social Media

The rapid population growth has been paralleled by a massive growth in Internet usage. The World Bank Data (2014) show an explosive growth in the number of Internet users in Saudi Arabia from only 5% of the population in 2000 to 60.5% in 2013 (see Figure 1.2). Over 13 million Saudis go online daily (Zarovsky, 2013). Of this number, 50% are active on social media, so almost 25% of the entire population is active on social media (Zarovsky, 2013). In

Twitter use, Saudi Arabia is the country with the highest active percentage of Internet users worldwide - one-third of the country's online population are active Twitter users ("Saudi Arabia Ranks First On Twitter Worldwide," 2013). Moreover, 5.4 million users are tweeting more than 210 million tweets per month. This represents 40% of all tweets in the Middle East ("The State of Social Media In Saudi Arabia Vol 3.," 2015). In YouTube use, Saudi Arabia has the world's most avid YouTube viewers, 96% of Saudi Internet users watch videos on YouTube, and at least 7 million users have uploaded videos once in their life ("The State of Social Media In Saudi Arabia Vol 3.," 2015). The number of daily views on YouTube exceeds 90 million, with half of it coming from smartphones (Gutelle, 2014).

Figure 1.2 Growth of Internet Users in Saudi Arabia (The World Bank, 2014)
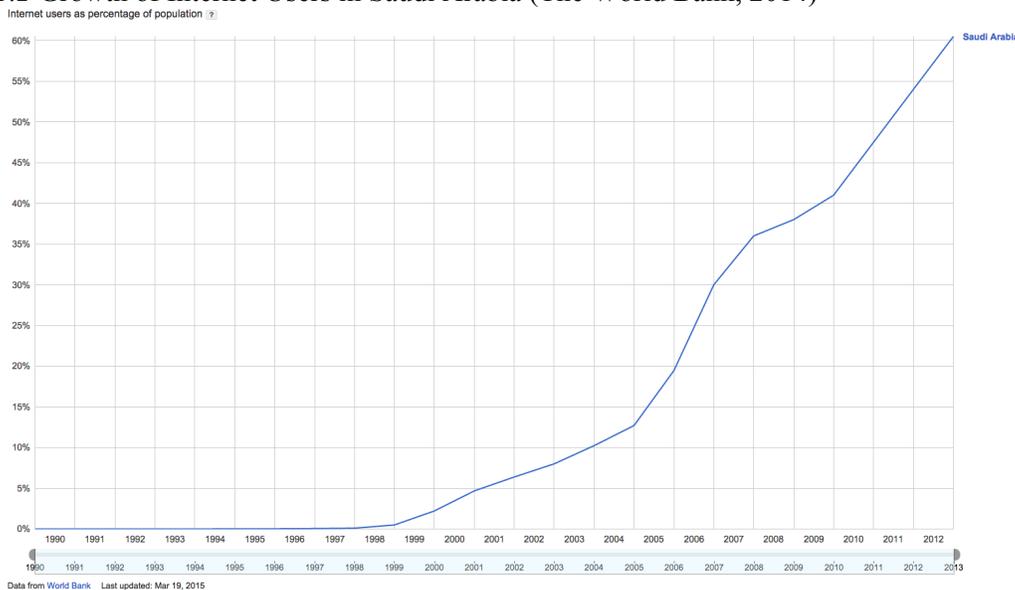
Lack of Educational Facilities

A great need for adopting online teaching emerged because of the lack of the availability of a sufficient number of educational facilities in Saudi Arabia. In general, the demand for education in developing countries exceeds available resources, especially with the

implementation of conventional face-to-face teaching strategies (J. Khan, S. Khan, & Al-Abaji, 2001). Currently, there are 20 public institutions of higher education and 22 private higher educational institutions. The latest figures indicated that these institutions registered 1,356,602 students in 2014 (Ministry of Education, 2014). Al-Erieni (1999) observed that the typical response of higher educational institutions in Saudi Arabia to the increasing demand on education was to establish new branches and expand college building. However, the expansion of traditional education did not match the increased demand. Consequently, many Saudi universities still face the problems of excessive enrollment, overcrowded classes, and lack of capacity to provide appropriate educational services. As a result, the existing traditional education system is still incapable of fulfilling the higher education needs of the population (Nolan, 2012).

Population Dispersed Over a Large Area

Saudi Arabia is a large country. The total land mass covers 756,982 square miles. It is the third-largest country in Asia, after China and India, with many remote areas containing a substantial number of citizens who lack the support to have education delivered to them (Al-Khalifa, 2009) (see Figure 1.3). As stated by Abahussain (1998),

> [In] Some villages the populations are so small that the building of schools is not feasible. There is also the difficulty of obtaining instructors who are willing to go to these remote villages, as living conditions there may not be such that they would be attracted by the best of offers. (p. 13)

Figure 1.3 Map of Saudi Arabia (World Atlas, 2009)

Distance education is most effective in countries in which the population is dispersed in a large geographical area and/or the population is dense (Khan et al., 2001) and distance education is believed to be appropriate for students living in remote areas in Saudi Arabia (Alshangeeti, Alsaghier, & Nguyen, 2009). According to Saif (2005), Saudi Arabian higher education institutions need a technologically-facilitated environment in order to make higher education accessible to a wider range of students.

Culture and Gender

Another great need for online teaching in Saudi Arabia arises from cultural factors that require sex-segregated education. According to Article 155 of the Educational Policy of Saudi Arabia, intermixing of genders is impermissible at all levels of education, except in pre-school (Ministry of Education, 1969). Male instructors are not permitted to teach female students. Only

medical colleges are exempted from this law. However, due to a large shortage of female instructors in higher education, some institutions incorporate Closed Circuit Television (CCTV) to deliver education to female students by male instructors, so that the law is not violated (Al-Sarrani, 2010; Mirza, 2008).

CCTV is a TV system in which signals are not publicly distributed but are transmitted between two specific places, on a limited set of monitors. In Saudi Arabia, CCTV is configured to be one-way video and two-way audio. The video and the sound of the male instructor are transmitted to the female students, while only the sound of the female students is transmitted to the instructor. This arrangement allows the instructor and the students to engage in a dialogue while the students see the instructor but the instructor does not see them.

Although CCTV has partially solved the problem of the shortage of the female instructors, it is not an effective solution. It is expensive and does not allow the instructor to receive the nonverbal communications from the students because he cannot see them. It has also led to a low level of student participation (Mirza, 2008). Moreover, it is not practical, if not useless, in courses that require a high level of interaction, such as science classes that involve laboratory work.

According to Abdel-Raheem (2014), a former instructor in a women's college in Saudi Arabia, CCTV created disciplinary problems, especially with attendance. Abdel-Raheem (2014) emphasized the constant technical struggle that instructors face when using CCTV. For example, the equipment often broke down, the monitor went off during the lectures, sometimes the instructor could hear the students but they cannot hear him, and sometimes the students could hear the instructor but he cannot hear them. Finally, he explained that exchanging materials and assignments between the instructor and the students was a cumbersome process. Sometimes the

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exchange was done through email. Often the students would ask a male relative to deliver the assignments to the instructor.

Mirza (2008) studied the implications of using CCTV in a sex-segregated learning environment in Saudi Arabia. When Mirza used CCTV to teach two classes at the same time, one consisted of male students and the other of female students, 25% of the female students felt discomfort in speaking through a microphone or telephone, 38% considered the method for calling the instructor time-consuming, 25% did not want to irritate other students by interrupting the instructor, and only 19% did not see any barriers to participation. Although female students valued the use of CCTV in the delivery of education, 94% believed that having an instructor within the same classroom, even of the opposite gender, was better for their learning (Mirza, 2008).

Another cultural obstacle that makes online teaching more necessary in Saudi Arabia is women's transportation. In Saudi Arabia women are not allowed to drive. It is also customary for the traditional Saudi family to not allow their daughters to travel alone, even for educational purposes. Consequently, Saudi women have reported time and travel constraints as the top barriers preventing them from pursuing further education (Taleb, 2014). It has been suggested that online teaching, particularly distance education, helps Saudi women to pursue further education in the convenience of their houses, eliminating the need for a male relatives to drive them to college (Taleb, 2014).

Online Teaching at King Saud University

King Saud University is a public university in Riyadh, Saudi Arabia, founded in 1957 as the first university in the country. Students began studying in the College of Arts in the 1957-

1958 academic year (King Saud University, 2014a). Since that time, the university has gone

through many stages of development. Today, its student body exceeds 60,000 and the number of

the faculty members is over 6,000 (Ministry of Education, 2014) (see Table 1.1 for faculty

population by gender and nationality, and Table 1.2 for faculty population by rank). It has 19

colleges that offer courses in natural sciences, humanities, health, and professional studies.

These colleges are grouped under 12 deanships, and one of them is the Deanship of E-Learning

and Distance Learning (King Saud University, 2014b).

The university has two separate campuses, one for male students and the other is for

female students. The female students are taught by female instructors. However, because of the

shortage of female instructors, male faculty members teach female students via Closed Circuit

Television (Mirza, 2008). Badran Alomar, the president of King Saud University, declared that

the university "aims to disseminate and promote knowledge in Saudi Arabia, widening its base

of scientific and literary expertise, maintaining a competitive edge with other nations in the fields

of Arts and Sciences, and contribute to discovery and invention" (Alomar, 2014, para. 2).

Table 1.1 King Saud University Faculty by Gender and Nationality (Ministry of Education, 2014)

Gender	Saudi	International	Total
Male	2,722	1,361	4,083 (65%)
Female	1,935	304	2,239 (35%)
Total	4,657 (74%)	1,665 (26%)	6,322

Table 1.2 King Saud University Faculty by Academic Rank (Ministry of Education, 2014)

Academic Rank	Professor	Associate Professor	Assistant Professor	Lecturer	Teaching Assistant	Total
	720 (11%)	1378 (22%)	885 (14%)	1008 (16%)	2331 (37%)	6,322

Due to increased student enrollment and the limited capacity of King Saud University, the Deanship of E-Learning and Distance Learning was established in 2007 (King Saud University, 2014c). It was assigned the task of supervising e-learning systems and training both teachers and students to use them (see Table 1.3 for the number of trained faculty members and students on using e-learning systems). Currently, the university uses the learning management system "Blackboard" and the virtual classroom system "Elluminate Live" for administration, documentation, tracking, and delivery of online courses (King Saud University, 2014c).

Table 1.3 Number of Trained Faculty Members and Students on using e-Learning Systems (King Saud University, 2014c)

Male Faculty Members	Female Faculty Members	Male Students	Female Students
2098	1543	863	1392

The Deanship of E-Learning and Distance Learning has the following objectives (King Saud University, 2014c):

1. Spread the e-learning culture.

2. Ensure the quality of the e-learning in university colleges.

3. Improve the skills of the faculty members in e-learning field and its applications.

4. Motivate faculty members to activate e-learning applications.

5. Provide an electronic environment that motivates learning and supporting the performance.

6. Strengthen community partnerships in the field of e-learning.

7. Cooperate with the university colleges to offer programs for distance learning.

8. Provide professional qualified employees in the field of e-learning services and programs.

9. Contribute to the improvement of knowledge economically through products, as well as scientific projects and other contributions.

Online Teaching in the College of Education at King Saud University

Founded in 1967, the College of Education prepares future teachers, administrators, counselors, and psychologists to be leaders and practitioners in education and related human service fields. It has nine departments that offer 20 programs: Six bachelor's degree programs, eight Master's degree programs, and six Ph.D. programs (College of Education, 2015). The departments of the College of Education are: Educational Policy Studies, Psychology, Curriculum and Instruction, Art Education, Educational Technology, Special Education, Educational Management, Islamic Studies, and Quranic Studies. The total number of faculty in all departments is 688 (see Table 1.4 for the numbers of faculty members by department). According to Al-Sarrani (2010),

> In Saudi Arabian universities the faculty structure is different than in the United States. Lecturers and Teaching Assistants have full-time positions and are accorded status as faculty should they obtain a doctorate. To move from a Teaching Assistant or Lecturer to Assistant Faculty, one must obtain a Ph.D. In essence, teaching duties are quite similar,

except that Teaching Assistants and Lecturers teach more classes and generally do not do

research. (p. 25)

Table 1.4 The Number of Faculty Members in the College of Education by Department (College of Education, 2015)

Department	Total
Educational Policy Studies	57
Psychology	110
Curriculum and Instruction	119
Art Education	33
Educational Technology	30
Special Education	83
Educational Management	36
Islamic Studies	180
Quranic Studies	40
Total	*688*

The College of Education has a special unit for e-learning. This unit cooperates with the Deanship for E-Learning and Distance Learning to train and support the faculty member in using different e-learning systems (College of Education, 2015). In 2014, the e-learning unit provided training sessions for faculty members in using the following technologies that comprise requires a baseline audit of faculty use for the purpose of achieving meaningful and effective online teaching:

1. Smart Classroom: Smart Classroom is a traditional teaching space that has technological equipment (e.g., specialized software, DVD Player, Projector) that can be used to improve the instruction of a course.

2. CourseLab: This is an authoring system that allows instructors to create high-quality interactive courses which can be published on the internet, learning management systems and other devices without the need to learn how to program.

3. Blackboard Mobile Learning Module: This uses mobile devices in order for faculty to send text messages, reminders, and alerts to students.

4. Blackboard: The learning management system used by the university through which students access online courses. It includes modules for creating and editing course content, communication tools, assessment tools, and other features for managing the course.

Statement of the Problem

The number of students at King Saud University exceeds 60,000 students (Ministry of Education, 2014). The university faces the problems of over-enrollment and a lack of facilities to provide appropriate educational services to students. The Deanship of E-Learning and Distance Learning was established to support the university's vision to expand beyond the traditional educational system using online teaching in order to accommodate to the increasing enrollments.

An issue faced by King Saud University is that of online teaching being still in its early stages and research is needed to improve it. The implementation of technology is inadequate to

respond to educational needs. In order to develop appropriate training programs for faculty in adopting online teaching, it is vital to diagnose their concerns and professional development needs. The findings will help in determining the support and resources needed to successfully implement online teaching.

Purpose of the Study

This study investigated the concerns and professional development needs regarding the adoption of online teaching as expressed by faculty in the College of Education at King Saud University. The goal was to provide baseline information for instituting a professional development plan for adopting technology use for the purpose of increasing the faculty's ability to offer online courses.

Research Questions

This study investigated the concerns of the faculty of the nine departments of the College of Education at King Saud University regarding the adoption of online teaching and how these concerns relate to their professional development needs. There were three research questions:

Research Question #1: What is the relationship between full-time faculty personal characteristics (age, gender, country of graduation, and years of teaching experience) and their concerns in adopting online teaching?

Null Hypotheses:

Ho 1.1. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty age.

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Ho 1.2. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty gender.

Ho 1.3. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty country of graduation.

Ho 1.4. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty years of teaching experience.

Research Question #2: What type of relationship exists between faculty contextual characteristics (administrative support of online teaching, department, and academic rank) and their concerns in adopting online teaching?

Null Hypotheses:

Ho 2.1. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty administrative support of online teaching.

Ho 2.2. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty department affiliation.

Ho 2.3. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty academic rank.

Research Question #3: To what extent do full-time faculty's technographic characteristics (prior instructional technology use, technology-related professional development, and attitudes toward online teaching) influence faculty use of technology in teaching?

Null Hypotheses:

Ho 3.1. There are no statistically significant differences in faculty use of technology in

teaching by faculty prior instructional technology use.

Ho 3.2. There are no statistically significant differences in faculty use of technology in

teaching by technology-related professional development needs.

Ho 3.3. There are no statistically significant differences in faculty use of technology in

teaching by faculty attitudes toward online teaching.

Significance of the Study

The Dean of E-Learning and Distance Learning at King Saud University focuses on

improving the skills of faculty members in online teaching. However, little is known about the

concerns and needs of the faculty in Saudi Arabia, in general, and at King Saud University, in

particular, in adopting online teaching. Information from this study will be used to design a

professional development program for faculty training for online teaching. This study was

driven by the lack of empirical data and assessment of online teaching at King Saud University

and the need to adopt online teaching by the university and its faculty in order to better serve

students and the country.

Professional development is critical for faculty in adopting online teaching (Al-Sarrani,

2010; Hwu, 2011; Kamal, 2013; Petherbridge, 2007). The effort to understand their concerns

during the adoption process in this study is expected to help in providing appropriate training

programs to them. Two previous studies in Saudi Arabia have shown statistically significant

differences in faculty's concerns by gender when integrating technology into teaching for various

reasons, with less access to adequate technology for online teaching and less technology support being two reasons (Al-Sarrani, 2010; Kamal, 2013). Al-Sarrani (2010) also found that there would likely be variations in the concerns toward adopting online teaching by department. Additionally, Kamal's study (2013) found a statistically significant difference in the faculty's concerns in adopting online teaching based on administrative support. These college and university differences could indicate the need for different approaches to professional development.

Limitations of the Study

This study collected data using a non-experimental cross-sectional survey. The results of this study are only accurate to the degree that faculty members were able to self-report their concerns, attitudes, and beliefs. To increase the quality of the answers, the researcher asserted in the beginning of the survey that the answers would be confidential and that participation was voluntary.

Additionally, the researcher teaches in the Curriculum and Instruction department at King Saud University. The potential biases of the researcher as a result of teaching where the study was conducted should be considered in the analysis and interpretation of results.

Delimitation of the Study

This study was limited to a survey of the faculty of the nine departments of the College of Education at King Saud University. The study might have limited generalizability. However, it is anticipated that other colleges at King Saud University, and other universities in Saudi Arabia,

will find the results of this study beneficial, particularly if the faculty members in the College of Education can be considered representative of their peers in similar colleges in other universities.

Definitions

Adoption: "The decision to make full use of an innovation as the best course of action available" (Rogers, 2003, p. 21).

Attitude: "Informed predisposition to respond and is comprised of beliefs, feelings and an intent for action," (Koszalka, 2001, p. 2).

Change Facilitator: Anyone in the organization (e.g., consultants, curriculum coordinators, or subject specialists). Change facilitators "support, help, assist, and nurture. Sometimes their task is to encourage, persuade, or push people to change, to adopt an innovation and use it in their daily schooling work" (Hord, William, Lesile, & Gene, 1987). In this study the change facilitator is the Deanship of e-Learning and Distance Education at King Saud University.

Concerns: A combined representation of feelings, preoccupations, reflections, and contemplations concerning a particular issue (Hall & Hord, 2014).

Concerns-Based Adoption Model (CBAM): "A framework designed to provide measurement concepts and tools for evaluators and researchers to evaluate the effects or progress of implementation of an innovation or multiple innovations that may constitute a reform program" (George, Hall & Stiegelbauer, 2006, p. 1).

Contextual characteristics: As defined in this study, they include administrative support of technology, department, and academic rank.

Distance education: "Distance education is planned learning that normally occurs in a different place from teaching, requiring special course design and instruction techniques, communication through various technologies, and special organization and administrative arrangements" (Moore & Kearsley, p. 2).

Innovation: "Whatever change or reform is being implemented" (Hord et al., 2006, p. 5).

Personal characteristics: As defined in this study, they include age, gender, country of graduation, and years of teaching experience.

Stages of Concern: One of the three diagnostic tools of CBAM. It "Addresses the individual's perceptions, feelings, and attitudes relative to the innovation" (Hord et al., 1987, p. 30). The Stages of Concern are Unconcerned, Informational, Personal, Management, Consequence, Collaboration, and Refocusing.

Technographic characteristics: As defined in this study, they include prior instructional technology use, technology-related professional development, and attitudes toward teaching with technology.

Abbreviations

CBAM: Concerns-Based Adoption Model

NCeL: The National Center for E-Learning and Distance Learning

SoCQ: Stages of Concern Questionnaire

Organization of the Study

This study is organized into five chapters. The first chapter introduces the need for online teaching in Saudi Arabian higher education, context of the problem, statement of the problem, purpose of the study, the research questions and null hypotheses, the significance of the study, and limitations and delimitation of the study, and definitions. The second chapter reviews the literature. It starts with an overview of the growth of online teaching in Saudi Arabia, then it details the major aspects of the theoretical framework - the Concerns-Based Adoption Model. Next, it reviews the selected faculty characteristics for this study before it ends with an examination of the advantages and challenges for faculty in the online teaching environment. The third chapter describes the selected research methodology to answer the research questions. The research questions are revisited, followed by information about the study participants, instruments used, data collection, and data analysis. Chapter four present the results of the statistical analysis and is organized according to the research questions. Chapter five presents a discussion of the study findings and recommendations for King Saud University for best practices and for future research.

Chapter 2 - Review of the Literature

Chapter Overview

The literature review is organized into five sections. The first section describes the growth of online teaching in higher education and Saudi Arabia. The second section reviews the theoretical framework, the Concerns-Based Adoption Model (CBAM). The third section reviews the mission of The National Center for E-Learning and Distance Learning in Saudi Arabia (NCeL) and The National Plan for Advanced Communication and Information Technology. The fourth section reviews the selected personal, contextual, and technographic variables. Finally, the fifth section reviews and synthesizes the most recent literature on online teaching.

The Growth of Online Teaching

The Growth of Online Teaching in Saudi Arabian Higher Education

Online teaching in Saudi Arabia is still in its early stages and research is needed to improve it (Algahtani, 2011; Kamal, 2013). Only in the past decade have Saudi universities begun to shift their focus toward online teaching. Their emphasis has been to improve the use of information technology in the curriculum, establishing virtual communities, and supplementing face-to-face instruction (Al-Fahad, 2010).

The first university in Saudi Arabia to embrace online teaching was King Fahad University of Petroleum and Minerals in 2003. The E-Learning Center, under the Deanship of Academic Development, was established to promote the use of learning technology in teaching and learning (Al-Khalifa, 2010b). King Fahad University of Petroleum and Minerals has also

publicly shared 147 of its courses online, both in Arabic and in English, which include

engineering, sciences, and industrial management courses (King Fahd University, 2009).

King Abdulaziz University established the Deanship of Distance Learning in 2005, and in

the same year started the first online learning program in Saudi Arabia using both a Learning

Management System and a virtual classroom system (Al-Khalifa, 2010b). The university offers

180 undergraduate and graduate online courses (King Abdulaziz University, 2011) and provides

a digital library of 16,000 e-books (King Abdulaziz University, 2010).

In 2006, King Khalid University established its Deanship for E-Learning and Distance

Learning in an effort to "spread the culture of e-learning at the level of faculty members and

students as well as those who are interested in e-learning" (King Khalid University, 2014, p. 2).

To better serve its 70,000 students, King Khalid University uses a variety of learning technology

tools, such as Massive Open Online Courses (MOOC), podcasts, blogs, and social networks

(King Khalid University, 2014). The Deanships of E-Learning and Distance Learning were

established at King Saud University in 2007, and King Faisal University and Al-Immam

University in 2008 (Al-Khalifa, 2010b).

The effect of online teaching and distance learning deanships upon these universities has

likely had an effect, though little data could be found. For example, Al-Khalifa (2009) reported

that enrollment at Al-Immam University had increased after establishing the Deanship of E-

Learning and Distance Learning from 6,000 in 2008 to more than 15,000 in 2009.

The Growth of Arab Virtual Universities in Saudi Arabia

In the same period of time, new virtual universities started to emerge in Saudi Arabia.

According to Mason and Rennie (2006) "virtual university" is a term that "denotes a university

that uses predominantly virtual learning processes as well as examination and administration services" (p. 122). In 2003, the Arab Open University opened. The university has several campuses located in Kuwait, Jordan, and Lebanon. The Arab Open University is affiliated with the United Kingdom Open University. Four programs have been established, and they are: Business, Computer Studies, Education, and Language Studies. A mixture of independent study and scheduled tutor-assisted sessions is provided to the students. Students learn via a learning management system, interactive multimedia lectures, and face-to-face lectures. The lectures are also available via DVDs, streaming video, and video formats for portable devices, such as mobile phones and iPods (Al-Khalifa, 2009).

Knowledge International University, based in Riyadh, Saudi Arabia, was founded in 2007 to offer bachelor's degrees in religious studies fully online (Al-Khalifa, 2009). The lectures are recorded and sent to the students with the reading material and multiple-choice assessments on a weekly basis. Students are required to participate in online forums and to join live online interaction sessions with the instructors (Knowledge International University, 2015).

In 2011, the Saudi Electronic University was established as the first and only virtual university in Saudi Arabia. It offers both graduate and undergraduate degree programs along with life-long education. The university includes the College of Administration and Finance Sciences, the College of Computer and Informatics, and the College of Health Sciences. It has 10 campuses located across the kingdom (Saudi Electronic University, n.d.).

Theoretical Framework: The Concerns-Based Adoption Model

To improve any educational institution, change must occur. For change to happen, an appropriate innovation is needed, such as a new product, a new curriculum, or a new teaching

strategy. Usually, the evaluation of the innovation focuses exclusively on its effectiveness without regard to its implementation strategies. This type of assessment leads to distorted results because it does not consider how the innovation was incorporated into teaching by those who are responsible for adopting it.

The Concerns-Based Adoption Model (CBAM) offers a comprehensive method to implement and evaluate innovations and the change process among faculty. It was introduced in 1973 by Hall, Wallace, and Dossett based on the work of Fuller (1969). Its main focus is what happens to teachers and college faculty when presented with change (Hall, Wallace, & Dossett, 1973). The CBAM is defined as "a framework designed to provide measurement concepts and tools for evaluators and researchers to evaluate the effects or progress of implementation of an innovation or multiple innovations that may constitute a reform program" (Hord et al., 2006, p. 1). The framework provides tools and strategies for comprehensive management of educational innovations. These components enable evaluators to think about, plan for, monitor, and facilitate the implementation process.

The CBAM main component that will be used in this study is stages of concern (see Figure 2.1). Stages of concern addresses individuals' feelings and concerns about the innovation (Hall & Hord, 2014).

Figure 2.1 The Concerns-Based Adoption Model (Hall & Hord, 2014)
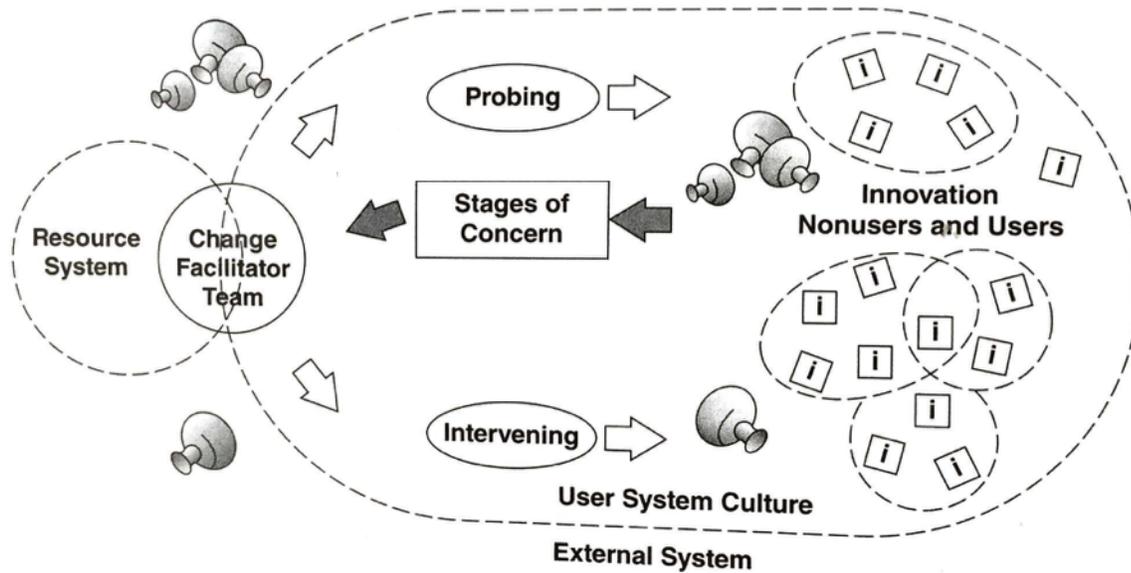
In Figure 2.1 the position of the change facilitator team is central because of its high importance. The change facilitator can be anyone in the organization (e.g., consultants, curriculum coordinators, or subject specialists). Change facilitators "support, help, assist, and nurture. Sometimes their task is to encourage, persuade, or push people to change, to adopt an innovation and use it in their daily schooling work" (Hord et al., 1987, p. 3). In this study, the change facilitator is the Deanship of e-Learning and Distance Education at King Saud University.

The change facilitator acts based on the needs of the individuals (represented by " i " in CBAM model) involved in the change. Usually, there is a resource system available to the facilitators to help individuals change. The resources may be abundant or scarce. How and when to use them is grounded in the CBAM diagnosis. The central hypothesis of the CBAM suggests that "with diagnostic information the change facilitator can make decisions about how

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to use resources and provide interventions to individuals to facilitate the school improvement process" (Hord et al., 1987, p. 10).

Fuller's Levels of Concerns

The CBAM evolved out of the work of Frances Fuller (1969), a counseling psychologist at the University of Texas at Austin. Prior to her research, Fuller started teaching student teachers a required Educational Psychology course. The evaluations at the end of the semester showed that 97 out of 100 students rated the course as "irrelevant" and "a waste of time." When Fuller looked at the three students who had rated the course positively, she found that, unlike the rest of the class, they had some sort of previous experience with children (e.g., being a parent or teaching a church class). Fuller then hypothesized that their concerns were different because of their experiences.

In the 1960s, Fuller proceeded to conduct a series of studies of teachers' concerns regarding an innovation. She approached her studies from a clinical point of view and found that teachers' concerns corresponded to three career stages (Fuller, 1969):

- **Pre-teaching Phase (Non-concern):** Usually, education students without teaching experience had no specific concerns related to teaching.

- **Early Teaching Phase (Concern with Self):** Beginning teachers' concerns centered around themselves, asking questions like: Where do I stand? How adequate am I?

- **Late Teaching Phase (Concern with Students):** Experienced teachers' concerns focused on students and teacher professional development.

Later, Fuller's model was restructured into four major clusters of concerns (Hall & Hord, 2014):

- **Unrelated Concerns:** This type of concern tends not to be about teaching at all and is found most frequently among pre-service teachers.

- **Self Concerns:** This type of concern is typically found among pre-service teachers. Frequently, concerns at this point are feelings of uncertainty, self-doubt, or potential inadequacy.

- **Task Concerns:** Quite soon after teaching, teachers' concerns start to be centered more on the tasks of teaching such as materials preparation, coordination, and scheduling.

- **Impact Concerns:** Teachers' concerns at this level are about improving themselves as teachers to be more effective and improving students' outcomes.

These clusters are the dimensions into which the CBAM's seven stages of concern (discussed in the next section) are grouped. Researchers hypothesized that there are definite categories of concerns among teachers when faced with innovation (Hall & Hord, 2014). Furthermore, it was also suggested that the concerns changed in a logical progression as users become increasingly confident in using innovation (Hall & Hord, 2014).

Stages of Concern

The CBAM has seven stages of concern about an innovation though which an individual's progress as an innovation is implemented. Hord and Hall (2014) asserted, "the term 'Stages' implies, and as the number of the stages suggests, there is a hypothesized pattern to the evolution of concerns profiles when the change process unfolds successfully" (p. 88). The CBAM's stages of concern component provides a framework through which to view the personal side of the

change process. It has been asserted that, "the Stages of Concern addresses the individual's perceptions, feelings, and attitudes relative to the innovation" (Hord et al., 1987, p. 30).

They are called "stages" because there is generally development through these stages. The stages of concern progress from little or no concern, to personal or self-concerns, to concerns about the task of adopting the innovation, and finally to concerns about the impact of the innovation (Hall & Hord, 2014).

The stages of concern are not mutually exclusive. An individual is likely to have some degree of concern at all stages at any given time. However, the intensity of the stages will change as the innovation implementation progresses. Usually, user concerns are developmental, so earlier concerns must first be addressed before later concerns can be addressed.

The seven stages of concern are the following:

Table 2.1 Stages of Concern about Innovation (George et al., 2006, p.8)

Impact	6	Refocusing	The focus is on the exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.
	5	Collaboration	The focus is on coordination and cooperation with others regarding use of the innovation.
	4	Consequence	Attention focuses on impact of the innovation on "clients" in the immediate sphere of influence.
Task	3	Management	Attention is focused on the process and tasks of using innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.
Self	2	Personal	Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation. This includes analysis of his/her in relation to the reward structure of the organization, decision-making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.
	1	Informational	A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about himself/herself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner, such as general characteristics, effects, and requirements for use.
	0	Unconcerned	Little concern about or involvement with the innovation is indicated. Concern about other thing(s) is more intense.

Implications of The Concerns-Based Adoption Model

The CBAM provides a unique look at the change process. Traditionally, an educational innovation is introduced to faculty in workshops. After completing the workshops and with individual struggle through trial and error, faculty are expected to successfully implement the innovation in their classrooms. The CBAM takes a different approach; the change facilitator works systematically and continuously with teachers to implement innovation. Faculty technical and personal concerns are addressed as they emerge and evolve.

The CBAM offers a comprehensive methodology to plan, implement, and evaluate change in many educational contexts. It describes what the change or innovation actually looks like in action, determines whether, how, and to what extent the teachers are using the innovation, and assesses how the faculty feel about and perceive the innovation. The CBAM has often been used in introducing and implementing new technologies in education. Slough and Chamblee's (2005) meta-analysis revealed 16 distinct studies that used the CBAM to implement different technology innovations in different educational contexts. Anderson (1997) testified that the "[CBAM] arguably is the most robust and empirically grounded theoretical model for the implementation of educational innovation to come out of educational change research in the 1970s and 1980s" (p. 331).

The CBAM and Technology Adoption among Faculty in Saudi Arabia

Three studies were found that used CBAM framework to investigate faculty concerns when adopting technology in Saudi Arabia (Al-Musned, 1989; Al-Sarrani, 2010; Kamal, 2013). The Al-Musned (1989) study will be discussed in this section and the other two studies will be discussed later.

Al-Musned (1989) conducted a mixed methods study to assess the Stages of Concern when adopting computers by the faculty of the College of Education at King Saud University. The study was designed to provide data on which to base recommendations for faculty computer training. The researcher selected 56 faculty members (from a total of 183 in the college) to complete a questionnaire that assessed the stages of concern. Of this number, 38, or 68% from the sample, returned the questionnaire. Of the sample, all were male faculty members. Although the response rate was low comparing to the total number of the faculty (20%), the findings were consistent with other studies on faculty concerns when adopting technology (Al-Sarrani, 2010; Kamal, 2013). Al-Musned (1989) discovered that awareness, informational, and personal stages (0, 1, and 2) were the highest among respondents at that time about computers. Furthermore, the refocusing stage (stage 6) was tailing up, indicating, according to the stages of concern interpretation, that the respondents had doubts and potential resistance to the innovation.

The CBAM, Technology Adoption in Saudi Arabia, and Gender

Two studies were conducted on both male and female faculty in higher education in Saudi Arabia (Al-Sarrani, 2010; Kamal, 2013). Al-Sarrani (2010) conducted a study on the adoption of blended learning by science faculty in three science departments (Biology, Chemistry and Physics) of Taibah University (n=148, with 58.8% response rate). He used a mixed methods design and a non-experimental, cross-sectional survey design, and utilized the Concerns-Based Adoption Model (CBAM) as the theoretical framework (Al-Sarrani, 2010).

Al-Sarrani (2010) found a statistically significant difference in the participants' concerns in adopting blended learning by gender (p <.05). The statistically significance difference was

found in stages one (Informational) ($p <.01$) and five (Collaboration) ($p <.01$) for female faculty. Al-Sarrani (2010) explained:

> Women university professors in Saudi Arabia could be more concerned about the need
> for professional development or for the inequity in the technical facilities in the women's
> and men's colleges. Most of the women that answered open-ended questions stated that
> they didn't have basic technology tools. For example, "How can we adopt blended
> learning without internet in the women's college?" (p. 151)

Al-Sarrani (2010) also found that faculty members with prior experience using technology were more likely to integrate technology into teaching than other faculty members. Participants' use of technology in teaching was also found to be influenced by their general attitudes towards technology integration in the curriculum.

The most recent was a quantitative study conducted by Kamal (2013) in that he investigated the concerns of faculty regarding the adoption of online teaching in six departments in the College of Arts and Humanities at King Abdulaziz University. The data were obtained from 147 faculty members with 63.9% a response rate from a non-experimental, cross-sectional survey.

Kamal (2013) found that the faculty concerns in adopting online teaching were not influenced by most of faculty personal characteristics (e.g., age, country of graduation, or years of teaching experience). However, a statistically significant difference was found in the participants' concerns in adopting online teaching by gender ($p<.05$). The significances were found in stage one (Informational) ($p <.05$), stage two (Personal) ($p <.01$), and stage six (Refocusing) ($p <.001$).

A statistically significant difference was also found in the participants' concerns in adopting online teaching based on administrative support ($p <.05$) (Kamal, 2013). The significant differences were found in stages zero (Unconcerned) ($p <.05$) and three (Management) ($p <.01$). Moreover, the technographic characteristics showed a statistically significant influence of participants' prior instructional technology use and technology-related professional development needs on their use of technology in teaching (Kamal, 2013). For these two studies, gender differences were found to be significant, possibly indicating educational and resulting productivity issues resulting from these differences.

The National Center for E-Learning and Distance Learning in Saudi Arabia

In order to assist universities and community colleges to improve student learning outcomes, The Ministry of Communication and Information Technology issued The National plan for Advanced Communication and Information Technology in 2007. The plan aimed to utilize communication and information technology in the critical public sectors to improve the infrastructure of the country. As a result, it was recommended to deploy e-learning and distance education in higher education, and one of the means to achieve this vision was to establish The National Center for E-Learning and Distance Education (NCeL) (The Ministry of Communications and Information Technology, 2007).

NCeL was established to support e-learning development in higher education by providing the necessary technologies and the technical support to develop e-learning content. According to Abdullah Almegren, the general manager of NCel, "the Center is responsible for incorporating the collective efforts and experiences of all the country's universities into

establishing e-learning and distance-learning concepts that benefit different members of society regardless of their socioeconomic or academic background" (Almegren & Yassin, 2013, p. 3).

NCeL initiated several projects to promote e-learning and distance education in higher education, and one of the their most important projects was the learning management system Jusur (Translate to "bridges"). The system is available for all Saudi universities to use in their classes, and is frequently used for administration, documentation, tracking, and delivery of the online courses (see Figure 2.2). Moreover, Jusur features learning content management system (LCMS) that enables the instructors, even with a little technology expertise, to create digital contents, or reuse contents already created by other instructors (NCeL, 2012).

Figure 2.2 Jusur Main Page (NCeL, 2012)

The number of the courses offered through Jusur reached 2,336 courses after only two years of implementation (Hussein, 2011). Al-Khalifa (2010a) reported that students liked Jusur and found it easy to use, despite some technical issues in the system that affect its usability, like the difficulty of downloading course materials. Likewise, faculty members showed positive attitudes toward the use of Jusur and moderately embraced it (Asiri, Mahmud, Bakar, & Ayub, 2012).

Other projects by NCeL include:

- Taiseer (Translate to "simplify"): A project which provides technical support and consulting services in using Jusur to faculty members and university staff (NCeL, 2014).

- Excellence Awards in E-Learning: Awards annually given by NCeL to the best e-learning projects in higher education in five categories: best academic paper about e-learning, best e-course, best usage of social networks, best learning object, and best training course (NCeL, 2014).

- The National Repository for Learning Objects (Maknaz): A project created to develop, deliver, and archive digital educational contents. It also allows users to search for digital educational content across more than 36 international repositories, including University of Cambridge, MIT, Delft University of Technology and Hong Kong University (Alsagoff, 2014).

- Saudi Digital Library: An academic database available for all Saudi colleges and universities with more than 300,000 e-books and 300 publishers (Saudi Digital Library, n.d.).

Selected Personal Characteristics of Faculty Members

Age

The original authors of CBAM did not consider age a predictive variable for innovation adoption (George, Hall, & Stiegelbauer, 2016). Their conclusion was echoed in a study by North Carolina State University (2004) that investigated the faculty experiences with computer-based instructional and learning aids (*n*=1790, 55% response rate) and found no relationship between the faculty members' age and the number of technologies they used in their courses. Later, three CBAM studies confirmed the same conclusion (Al-Sarrani, 2010; Hwu, 2011; Kamal, 2013).

On the other hand, two other studies found age to be a predictive variable for innovation adoption (Adams, 2002; Petherbridge, 2007). Adams (2002) studied faculty concerns related to the integration of technology into teaching (*n*=589, 39% response rate) and found that the younger faculty expressed higher concerns than older faculty. While the response rate was low (under 40%), the findings were consistent with other studies on faculty concerns when adopting technology (Owusu-Ansah, 2001; Petherbridge, 2007).

Petherbridge (2007) studied the concerns in the adoption of learning management systems in higher education (*n*=1196, 29.5% response rate) and found age to be predictive of faculty concerns in using learning management systems into teaching. The older faculty showed less interest in knowing about or using the learning management systems. The results of Petherbridge's (2007) study are also somewhat questionable due to the low return rate.

Gender

According to Article 155 of the Educational Policy in Saudi Arabia, intermixing of genders is impermissible at all levels of education, except in pre-school (Ministry of Education, 1969). Only medical colleges are exempted from this law. It was hypothesized that, due to this special cultural arrangement in Saudi Arabia, gender might have a significant influence on concerns when adopting technology in the educational settings. The hypothesis was confirmed by Al-Sarrani (2010) who examined the concerns of faculty of three departments in the science college at Taibah University in adopting blended learning (n=148, 58.8% response rate). Al-Sarrani (2010) found a statistically significant difference in the participants' concerns in adopting blended learning by gender, (p<.05). The statistically significance differences were found in stages one (Informational) (p<0.1) and five (Collaboration) (p<.01) for female faculty.

The same conclusion was confirmed again by Kamal's (2013) study, in which he investigated the concerns of the faculty regarding the adoption of online teaching at King Abdulaziz University (n=147, 63.9% response rate). Kamal (2013) found a statistically significant difference in participants' concerns in adopting online teaching by gender (p <.05). The significant differences were found in stage one (Informational) (p <.05), stage two (Personal) (p <.01), and stage six (Refocusing) (p <.001).

Country of Graduation

In 2005, the Ministry of Higher Education initiated King Abdullah Scholarship Program that awarded scholarships to more than 111,000 students and all the awardees were sent to universities outside Saudi Arabia (Naffee, 2014). A large proportion of the current faculty members in Saudi Arabia have graduated from schools outside the country, which intrigued the

researchers to investigate the relationship between the faculty concerns when adopting technology and their countries of graduation (Alharbi, 2002; Alnujaidi, 2008; Al-Sarrani, 2010; Kamal, 2013).

Alharbi (2002) and Alnujaidi (2008) found a significant relationship between innovation adoption and the country of graduation. Alharbi (2002) studied the barriers and attitudes of faculty and administrators toward implementation of online courses (n =237, 67.7% response rate) in Imam University in Saudi Arabia. He found that faculty members who graduated from western universities show a higher level of concern and more positive attitudes compared with faculty members who graduated from Saudi Arabia or another Arab country (r = .205, p<.01). Alharbi (2002) explained that faculty members who graduated from western universities were more familiar with technology and speaking English, which is influential, since learning and using technology require some degree of English speaking ability.

Alnujaidi (2008) investigated the factors that influence the adoption and integration of web-based instruction by English language faculty members in their regular teaching in Saudi Arabia (n= 320, 66% response rate). Alnujaidi (2008) also found a significant relationship between innovation adoption and the country of graduation *(r = .147, p = .008)* at the .05 level of significance.

Years of Teaching Experience

Although most recent CBAM studies in Saudi Arabia found no relationship between faculty member years of teaching experience and their concerns when adopting technology (Al-Sarrani, 2010; Kamal, 2013), but results in the USA were different (Adams, 2002; Hwu, 2010).

Adams (2002) examined the faculty concerns related to the integration of technology into teaching practices and compared the concerns to the demographic variables at a metropolitan postsecondary institution in the USA. The study (Adams, 2002) population was a convenience group sample including 589 faculty members. Two hundred thirty-one questionnaires were returned and resulting in 39% return rate. The study revealed a correlation between years of teaching experience and concerns. Young faculty and faculty with less teaching experience expressed higher concerns regarding technology integration into teaching practices. The results indicated a significantly higher level of integration by faculty with zero to three years of teaching experience, while the faculty with 10 to 19 years of teaching experience had the least integration of technology.

Hwu (2010) conducted a mixed methods study to explore the concerns and professional development needs of faculty at University Alaska Fairbanks. For the quantitative measures, he sent a survey to 253 faculty members and 69 survey were returned, resulted in 39% return rate. Faculty's highest concerns were unconcerned, personal, and management (stages 0, 2, and 3). He found that the years of teaching experience was predicative of the faculty members' concerns. However, the data did not provide any evidence about how the years of teaching experience increased or decreased with the faculty's concerns, or whether there was a positive or negative correlation between the two variables. Due to these mixed results, more investigation is needed to study the relationship between faculty years of teaching at the college level and their concerns when adopting technology in Saudi Arabia.

Selected Contextual Characteristics of Faculty Members

Administrative Support of Technology

Most studies agree that administrative support of technology is critical for faculty when adopting technology (Hall & Hord, 2014; Hwu, 2011; Kamal, 2013; Petherbridge, 2007). According to Dusick (2014), "although the teacher may have control over some environmental factors (classroom setup, for example), a supportive administrative staff and support staff, are critical to encouraging the adoption of innovation" (p. 131).

Petherbridge (2007) found that faculty needed and looked for administrative support when adopting learning management systems. It was one of the most important interventions identified by the faculty who had Informational, Personal, and Impact Concerns (Petherbridge, 2007). Similarly, Kamal (2013) found a statistically significant difference in the participants' concerns in adopting online teaching based on administrative support ($p<.05$). The significances were found in stages zero (Unconcerned) ($p<.05$) and three (Management) ($p<.01$).

Department Association

Al-Sarrani (2010) studied the adoption of blended learning in three departments in the College of Science at Taibah University in Saudi Arabia (Physics, Biology, Chemistry) ($n=87$, 58.8% response rate) and found a statistically significant difference between Science faculty's use of technology in teaching by department based on their departments. Faculty from the Chemistry department had a statistical significant difference in the use of computer-based technology ($p = .049$) and instructional technology use ($p = .041$).

When Petherbridge (2007) studied faculty concerns she found that different academic disciplines had different concerns at different times during the technology adoption process. For instance, she found that Education faculty had higher task and impact-refocusing concerns than faculty in other colleges (2007). Additionally, Lee (2000) observed that disciplinary differences must be taken into consideration when working with faculty, as different disciplines have differing ways of approaching a variety of tasks.

Biglan (1973) categorized the tendencies among faculty members to engage in some activities (e.g, socializing, publishing) based on their academic disciplines. Furthermore, based on a study of 58 faculty members and 296 students at 20 universities, Jones, Zenios, and Griffiths (2004) concluded that differences between academic disciplines exist in the way that digital resources are used in teaching and learning. For instance, Science faculty were more interested in providing access for students to specialized software in order to develop skills that were assumed to be required in the workplace, while Humanities faculty were more interested in providing access to current and very up-to-date material on the web (Jones et al., 2004).

Academic Rank

In Saudi Arabia, neither Al-Sarrani (2010) nor Kamal (2013) found any relationship between academic rank and concerns in adopting technology. In contrast, Alharbi (2002), Saif (2005), and Alnujaidi (2008) found statistically significant relationships between academic rank and concerns when adopting innovation. According to Petherbridge (2007), "respondents who are tenured or with the rank of instructor had lower self-personal concerns than other faculty, implying tenured faculty, or those hired with a teaching focus, were not as worried about the rewards structure for using technology" (p. 269).

Selected Technographic Characteristics of Faculty Members

Prior Instructional Technology Use

Petherbridge (2007) defined prior instructional technology as "any prior use of computer technology for instructional purposes" (p. 57). When Petherbridge (2007) examined the faculty adoption of learning management systems, she found that faculty members with prior experience using learning management systems had significantly lower unrelated concerns scores ($p < .01$). Likewise, Al- Sarrani (2010) found that faculty members with prior experience using technology were more likely to integrate technology into teaching than other faculty members. Kamal (2013) also found statistically significant differences between faculty prior instructional technology use and faculty adoption of online teaching. Hall and Hord (2010) concluded that Awareness, Informational, Personal, and Management concerns decreased with increased technology use.

Technology-Related Professional Development

Petherbridge (2007) defined technology-related professional development as "any formal training experience (e.g., workshop, seminar, program, conference) that increases knowledge or skills in how computers and computer related technologies can be used in instruction" (p. 58). She stated, "faculty members will need a variety of professional development activities in order to move beyond intrinsic concerns associated with using an innovation, to achieving the ideal concerns area of impact-consequence and impact-collaboration" (Petherbridge, 2007, p. 246). George, Hall, and Stiegelbauer (2006) argued that professional development was one of the most important factors in determining concerns about an innovation adoption. Most studies found that professional development in higher education increased the faculty use of technology and

consequently they expressed higher level of concerns (Al-Sarrani, 2010; Hwu, 2011, Kamal, 2013, Petherbridge, 2007).

In Saudi Arabia, Al-Sarrani (2010) found that 86% of faculty either agreed or strongly agreed that they needed more training on integrating technology to teaching strategies. Moreover, Kamal (2013) found a statistically significant relationship between technology-related professional development needs and faculty adoption of online teaching ($p<.05$).

Attitudes Toward Online Teaching

An attitude is an "informed predisposition to respond and is comprised of beliefs, feelings and an intent for action" (Koszalka, 2001, p. 96). Therefore, attitude toward teaching with technology was defined as "an instructor's beliefs and feelings about using computer-based technologies to support their teaching practices" (Petherbridge, 2007, p. 60). Instructor positive attitudes toward technology have been considered to be a prerequisite for the effective use of technology (Christensen, 1998). Hwu (2011) stressed, "in examining attitudes, then, this means that one should not simply look at attitudes toward computing as a single construct, but as one construct that is needed in order to more specifically frame the examination of attitudes within the context of use" (p. 53). All of the reviewed literature found a statistically significant relationship between faculty attitudes toward technology and concerns scores (Al-Sarrani, 2010; Hwu, 2011; Kamal, 2013; Petherbridge, 2007).

Online Teaching

This section reviews the most recent literature on online teaching and synthesizes its advantages and challenges for faculty in higher education. It is divided into three sections and

each one addresses a major aspect of online teaching from the faculty's perspective. The first section reviews the advantages for faculty in online teaching. A special emphasis is given to its effectiveness in achieving high outcomes and its ability to address inequities. The second section addresses the challenges that faculty face when adopting online teaching. It covers the challenges of faculty satisfaction, faculty "burnout" (exhaustion), keeping students motivated, developing students' satisfaction, improving student retention, and finally the institutional barriers faculty face when adopting online teaching. The third section discusses practices that aim to improve the quality of online teaching.

Advantages for Faculty in Online Teaching

Numerous studies and reports have illustrated the many advantages of online teaching for faculty. For instance, Stansfield, McLellan, and Connolly (2004) suggested that online teaching provided a greater degree of learner control over instructional materials, increased opportunities for reflecting on and refining ideas, permitted flexibility by granting student unrestricted access to course materials, and offered richer levels of interaction. Additionally, the Online Nation report (Allen & Seaman, 2007) showed that all educational institutions cited "improved student access" as their top reason for offering online courses and programs, while the second reason was the appeal of learning online to nontraditional students. Furthermore, Grandzol (2006) suggested the following advantages for online teaching: Improving the technical literacy of students, minimizing projected shortages in instructors, alleviating overcrowding and reduced investment in college physical plants, increasing enrollment and profits, creating a more friendly learning environment (especially for non-traditional student, and particularly for female adult learner with children) allowing students to work at their own pace, extending the geographic

reach and presence of an institution, improving graduation rates, and reducing costs associated with commuting and other work demands.

Effectiveness of Online Teaching

Online Report Card (Allen & Seaman, 2016) found 71% of chief academic officers believed that the learning outcomes for online teaching was "as good as or better" than those for face-to-face instruction. Their view was confirmed by three meta-analyses that compared online and face-to-face courses (Bernard et al., 2004; Sitzmann, Kraiger, Stewart, & Wisher, 2006; Zhao, Lei, & Yan, 2005).

The most extensive review was conducted by Bernard and his associates (2004). The analysis included 157 studies, from 1985 to 2002, and was based on a total of 40,495 students. In general, there was a small, yet significant, difference in achievement scores favoring online teaching over face-to-face learning. Face-to-face learning was found to be better for topics such as Mathematics, Science, and Engineering, while Computing, Military, and Business topics seemed to be more conducive to online teaching at that time. Conditions that contributed to more effective online teaching included use of synchronous communication and interactive distance learning technologies, such as computer-mediated communication and two-way audio and two-way video, which was new at the time of the analysis.

Sitzmann and associates (2006) conducted another meta-analysis. The analysis included 96 studies, from 1996 to 2005, representing more than 19,000 students. Online teaching was found to be significantly, though weakly, more effective than traditional learning in teaching theoretical knowledge, while there was no evidence of differences between these two modalities on practical knowledge. The study indicated that when online teaching courses allowed higher

levels of control, practice opportunities, and feedback to students, its effect became stronger when compared to face-to-face instruction.

The last meta-analysis was based on 51 studies, representing 12,000 students (Zhao et al., 2005). It was found that while online teaching was slightly more effective than face-to-face teaching, the difference was not significant. There were three factors that contributed to the effectiveness of online teaching: instructor involvement, media involvement, and the type of interaction used (including both synchronous and asynchronous interaction was the most effective). Among the three, instructor involvement was the most significant factor. Zhao et al. 2005 concluded, "when instructor involvement is low, the outcome of distance education is not as positive as those of face-to-face education; when instructor involvement increases, distance education programs yield more positive outcomes than face-to-face education" (p. 33).

These meta-analysis studies revealed that online teaching was as effective, if not slightly more effective, than traditional classroom-based instruction on many measures of academic performance. However, "what influences learning," Artino and Durning (2012) asserted, was "the instructional method underlying the medium employed" (p. 630). The quality of online teaching is significantly affected by the quality of the instruction provided. According to Tallent-Runnels and associates (2006):

> Not surprisingly, students in well-designed and well-implemented online courses learn significantly more, and more effectively, than those in online courses where teaching and learning activities were not carefully planned and where the delivery and accessibility are impeded by technology problems. This finding challenges online instructors to design their courses in accordance with sound educational theories. (p. 116)

The Power of Online Teaching to Address Inequities

In Saudi Arabia, and especially in higher education, the issue of gender inequity is significant. Online teaching can be a powerful tool to overcome it. In the words of Von Prümlmer and Rossie (2001), "if gender is not seen as relevant, the system will not be equally accessible to women and men and it will offer men more of a chance to succeed" (p. 137). Female students often perform better than male students in online teaching environments (Gunn, McSporran, Macleod, & French, 2003), are usually more satisfied with it than male students (Shea, Fredericksen, Pickett, Pelz, & Swan, 2001) and perceive more learning taking place than a face-to-face environment (Anderson & Haddad, 2005). Moreover, a study suggests that male students tend to dominate conversations in the classroom (Tannen, 1991). However, it was found that in the case of online teaching, female students tended to participate more than male students (Herring, 2000). While most of these studies were conducted in universities in the USA and Europe, it is safe to assume that the powerful effect of online teaching to address gender inequities in the classroom in Saudi Arabia arises from the prevailing online teaching structure. Sullivan (2010) explained why the online class is more female-friendly environment than a traditional face-to-face classroom by stating:

> The online learning environment can be configured in ways to offer a more welcoming and less "chilly" environment for female students than the traditional classroom, which may privilege a "masculine style" of discourse, with such characteristics as highly assertive speech, impersonal and abstract style, and competitive, "devil's advocate" interchanges. (p. 812)

The success of online teaching in overcoming gender inequity was not found to be the same with low-income and underprepared students. One study (Kane, 1996) found that online

teaching had no impact on new college enrollments among low-income populations. Moreover, Jaggars (2011) asserted that online teaching in its typical, less involved form may hinder the progression and success of low-income and underprepared students. Jaggers (2011) suggested three strategies to improve the access and the chances of success of online programs: Reduce direct costs to low-income students, revise financial aid structures, and create more robust, interactive, fully online programs.

Challenges Faculty Face in Online Teaching

Many studies and reports have documented the challenges and barriers to faculty in online teaching. An Online Nation report (Allen & Seaman, 2007) indicated that the challenges include the lack of online student discipline, the lack of faculty acceptance, and high costs associated with online development and delivery. Berge and Muilenburg (2001) reported that the three most significant barriers for faculty in adopting online teaching were related to faculty compensation and time, organizational change, and the lack of technical expertise and support. Grandzol (2006) also pointed out that challenges to online teaching included the poor quality of instruction, training costs for faculty, evoking faculty resistance to change, lack of student-teacher interactions, employer skepticism, increased faculty workloads, the inappropriateness of the medium for teaching certain types of course content, problems in technology and administration, and loss of scholarly control. Furthermore, Giannoni (2003) asserted that the assumption in academia that online teaching was less desirable than face-to-face instruction, for various reasons, was another barrier to the adoption of online teaching.

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Faculty Satisfaction

Faculty satisfaction has been found to be one of the most important elements in the success of online teaching (Curran, 2008), if not the most important factor (Selim, 2007). It is frequently used as a measure for the assessment of program effectiveness (Sloan Consortium, 2002) because it is highly correlated with student motivation and learning outcomes (Hartman, Dziuban, & Moskal, 2000).

It is usually assumed that when institutions embrace online teaching it is done at the expense of core faculty, and that adjunct faculty are hired on a per-course basis for this purpose, which then leads to low-quality online courses. The evidence does not support this assumption. Allen and Seaman (2006) showed that large numbers of institutions were using primarily core faculty to teach their online courses.

Although this trend means more opportunities and jobs for core faculty members, some reports indicated that faculty often did not accept the value of online teaching (Allen & Seaman, 2003, 2004, 2006, 2016) and were reluctant to embrace it (Mills, Yanes, & Casebeer, 2009). However, faculty satisfaction is a complex issue that is difficult to describe and predict because faculty satisfaction varies significantly from instructor to instructor and from one institution to another (Bolliger & Wasilik, 2009). Hislop and Atwood (2000) reported that 78% of instructors at Drexel University considered face-to-face teaching to be more satisfying than online teaching. Conversely, two-thirds of the instructors at the University of California Extension were strongly satisfied with teaching online (Almeda & Rose, 2000). A later study by Wasilik and Bolliger (2009) found that 93.1% of instructors at a public research university indicated looking forward to teaching another online course and indicated that they were moderately satisfied with online teaching at their institution.

These varying results triggered many researchers to look for factors that influenced faculty satisfaction. Bolliger and Wasilik (2009) confirmed that there were three groups of factors that determined faculty satisfaction: student-related, instructor-related, and institution-related factors. They also emphasized that student-related factors were the most important among the three. Ambrose, Huston, and Norman (2005) found seven factors to determine faculty satisfactions: salaries, collegiality, mentoring, the reappointment, promotion and tenure process, department heads, city or local region, and the interdisciplinary nature of the institution. Moreover, Bower (2001) reported three factors: adequacy of institutional support (i.e., salary, promotion and tenure, workload, and training), the change in interpersonal relations, and quality.

Other groups of researchers were more inclined to focus on only one factor that affected faculty satisfaction. For instance, Hartman, Dziuban, and Moskal (2000) linked it to student outcomes. According to the study, the level of faculty satisfaction was higher in courses in which student performance was better. Simonson, Smaldino, Albright, and Zvacek, (2003) demonstrated that faculty felt more satisfied with online teaching when institutions provided adequate levels of instructional design and development support. Other studies associated faculty satisfaction with help with technology-related problems (Arvan & Musumeci, 2000) or the increase of face-to-face contact with the students (Almeda & Rose, 2000). Clearly, there are a number of factors that affect faculty concerns in online teaching and these factors can affect student learning.

Faculty "Burnout"

Faculty face many barriers and frustrations in adopting online teaching. One of the strongest is that teaching online requires instructors to do more tasks than face-to-face instructors

do because faculty are not only responsible for lesson organization, but they also must work with the online content and delivery systems in an online teaching environment (Hogan & McKnight, 2006). The extra work led Hogan and McKnight (2007) to assert that online instructors were subject to emotional fatigue ("burnout"), a high level of depersonalization, and a low level of perceived accomplishment. Faculty considered the time spent teaching online to be overwhelming (Bruner, 2007). Other studies echoed this claim. For example, Cavanaugh (2005) found that faculty spent more than twice the amount of time facilitating an online class compared to a face-to-face class, and Boettcher (2004) estimated that an instructor needed 10 hours to design and develop for every one hour of online instruction. These figures may or may not have changed with the addition of newer tools, apps, and other media incorporated into online instruction.

Improving Student Retention

The online student population is diverse in terms of age, ethnicity, and cultural background. A report by the American Council on Education (Oblinger, Barone, & Hawkins, 2001) cited seven distinct types of online learners: corporate learners, professional enhancement learners, degree-completion adult learners, college experience learners (the traditional student), precollege (K-12) learners, remediation and test-preparation learners, and recreational learners. Ashby (2002) suggested that online learners are more likely to be disciplined, married, female (if an undergraduate), enrolled part-time, and isolated from the school campus.

These differences suggest that the needs of the online students differ from those in traditional learning. Mupinga, Nora, and Yaw (2006) reported that the most important needs for online students were technical help, flexible and understanding instructors, advance course

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information, sample assignments, grading standards, instructor feedback, interpersonal

interaction, additional reference materials, and equal recognition with on-campus students.

Bernard et al. (2004) found that the retention rate in online teaching was significantly

lower than traditional learning. Additionally, a difference was found between synchronous and

asynchronous courses, with the latter showing significantly higher dropout rates. A more recent

Grade Change report (Allen & Seaman, 2014) speculated that since learning online appealed to

nontraditional students, who might otherwise not have been able to attend on-campus instruction,

the direct comparisons were confounded by other variables.

Students were more likely to drop out of an online course because of work or family

commitments, which reflected the nature of the students, not the nature of the course (Allen &

Seaman, 2014). Conversely, Jaggars (2011) suggested that the format of the online course

might create difficulties for students. He suggested four explanations for the decrease in

retention rate in the online environment: technical difficulties, increased "social distance", a lack

of structure in many online courses, and a lack of student support. However, these findings may

also suggest that many online courses needed improved course design and technical support.

Keeping Students Motivated

Studies indicate that online students must be highly motivated to succeed in online

courses (Chyung, 2001; Park & Choi, 2009; Roblyer, 1999; Sankaran & Bui, 2001). Self-

motivated and self-disciplined students are most likely to succeed in distance education (Li,

2002). Kerr's (2009) suggested that to increase motivation online learners should articulate clear

learning goals, complete all assignments, and be more responsible for their learning.

Developing Student Satisfaction

It is important to study student satisfaction in online teaching for two reasons: First, it has been shown that student satisfaction and course achievement in online teaching are positively correlated (Rabe-Hemp, Woollen, & Humiston, 2009), and it also has been shown that the level of student satisfaction is a strong predicator for student retention (Guo, 2010).

Allen and associates (Allen, Bourhis, Burrell, & Mabry, 2002) conducted a meta-analysis that revealed a small difference in satisfaction level in favor of face-to-face learning. However, the difference in student satisfaction level between the two environments diminished as additional information was added to the instruction (e.g., from text to audio to video). They asserted that the replacement of face-to-face learning with online teaching will lead to little decline in student satisfaction level (Allen et al., 2002). Another meta-analysis (Macon, 2011) confirmed the same result. However, this review emphasized that the course subject area and the course level had an effect on the student satisfaction level. For example, students in Statistics courses preferred face-to-face learning, while students in Business courses were neutral. Moreover, students taking undergraduate courses had a higher level of satisfaction in face-to-face learning than with online learning, while students in graduate courses had no preferences.

Overcoming Institutional Barriers

Studies have shown that most barriers to online teaching were not only individual barriers (e.g., personal dissatisfaction or lack of technical skills), but also institutional factors. For instance, Berge and Muilenburg (2001) claimed that the major problems in teaching online for faculty are associated with changes in faculty role, organizational function, and administrative structure. Likewise, Shelton and Saltsman (2005) reported that the most important barrier is

faculty compensation. Moreover, the belief among some faculty that online teaching is less rigorous, credible to traditional learning (Yick, Patrick, & Costin, 2005), and is not rewarding in the faculty teaching repertoire (Folkers, 2005) were also strong barriers to the adoption of online teaching. Heilman (2007) summarized the institutional barriers for faculty as follow,

> [Institutional barriers] involve poor or nonexistent aspects of institutional support (Wolcott, 2003) such as, lack of rewards (Awalt, 2003; Montgomery, 1999), lack of incentives (Awalt, 2003; Bolduc, 1993; Halfhill, 1998), lack of administrative or technical support (Awalt, 2003; Bebko, 1998; Betts, 1998; Halfhill, 1998; Montgomery, 1999), lack of adequate compensation (Wolcott & Haderlie, 1995 cited in Wolcott, 2003), lack of adequate information (Montgomery, 1999), lack of policy or commitment to distance education, (Bebko, 1998; Halfhill, 1998) and lack of training (Awalt, 2003; Bonk, 2001; Schifter, 2000). (p. 41)

Oomen-Early and Murphy (2009) suggested that faculty needed to feel supported by university administration. Faculty satisfaction was linked to an institution's ability to remove physical and technical barriers (Hwu, 2010). In the same vein, Li (2002) suggested that faculty dissatisfaction of online teaching results from not being involved during the early stages of planning for online teaching. Most faculty members held positive attitudes toward online teaching when they were involved in the decision-making process (Li, 2002).

Improving Online Teaching

The Online Learning Consortium established five pillars for quality online education as a framework for measuring and improving an online program within any institution (Lorenzo & Moore, 2002). The first pillar is "learning effectiveness," which emphasizes interaction and

facilitating active learning exercises. The second is "student satisfaction," where students receive timely and personalized education. The third is "faculty satisfaction," where there is high moral and administrative support and mutual respect. The fourth is "cost effectiveness." And the fifth is "students access," where the term "access" means reducing all barriers to all the students, not only those with disabilities or senior citizens. These pillars provide higher education institutions with powerful measures against which to plan and evaluate their progress.

Li (2002) provided many suggestions to improve online teaching. One suggestion was to use a self-evaluation quiz to help prospective students to determine if learning online is suitable for them because online learners need to possess additional skills such as self-motivation, self-discipline, and the ability to commit 4 to 15 hours a week to succeed. Li (2002) also acknowledged the importance of increasing the flexibility of the online course because flexibility and a sense of control are two of the most important incentives for enrolling in online courses. Additionally, Li (2002) emphasized the importance of increasing the interaction between the instructor and the students and between the students themselves in the online course. Instructors can increase the interaction through ice-breaking activities, frequently logging in to ensure that the discussion is going on, e-mailing students to check with them, and providing immediate responses to the students.

As previously noted, faculty burnout was one of the most important factors that hinders faculty satisfaction. In order to eliminate burnout Kyriacou (as cited in Hogan & McKnight, 2007) offered the following advice for institutions:

1. Consult with online faculty on matters directly impacting their learning environment (i.e., curriculum development).

2. Provide adequate resources to support online instructors (i.e., technology support resources).

3. Provide detailed job descriptions and faculty expectations to reduce role ambiguity.

4. Create and maintain clear lines of communication between online faculty and administrators by providing performance feedback.

5. Facilitate professional development activities (i.e., mentoring, advanced training using online technology).

6. Reduce teaching load and number of students per online course.

Additionally, in their meta-analysis looking for effective teaching practices, Chickering and Gamson (1987) identified seven principles for good practice:

1. Encourage contacts between students and faculty in and out of classes.

2. Learning is enhanced when it is more like a team effort than a solo race.

3. Active learning is encouraged in classes that use structured exercises, challenging discussions, team projects, and peer critiques.

4. Students need appropriate and timely feedback on their performance to benefit from courses.

5. Learning to use one's time well is critical for students and professionals alike.

6. Communicate higher expectations.

7. Provide a diverse delivery system.

The growth of online teaching has been enormous, and higher education institutions increasingly recognize its importance in providing a range of courses and options for an increasingly mobile population. Despite the fact that it is often mistakenly believed that online teaching is inferior to traditional learning, studies show over and over that it is as effective as, if not slightly more effective than, traditional learning, particularly when done using proper online course design principles. There are many opportunities and challenges in adopting online teaching, and there are many barriers that face faculty and administrations. However, studies and reports provide guidance and insights into best practices to take advantage of the opportunities and overcome the challenges.

Chapter Summary

The Concerns-Based Adoption Model (CBAM) offers a comprehensive framework to implement and evaluate innovations. The framework provides tools and strategies for managing educational innovations. The CBAM's stages of concern, addressed individuals' feelings and concerns about the innovation. The CBAM has seven stages of concern about an innovation though which an individual's progress as an innovation is implemented.

Studies of CBAM and the selected personal, contextual and technographic characteristics for this study were presented and discussed in this chapter. The selected personal characteristics are: age, gender, country of graduation, and years of teaching experience. The selected contextual characteristics were: administrative support of technology, department association, and academic rank. Finally, the selected technographic characteristics were: prior instructional technology use, technology-related professional development, and attitude toward online teaching.

This chapter also reviewed the most recent literature on online teaching and synthesized its advantages and challenges for faculty in higher education. When reviewing the advantages for faculty in online teaching, a special emphasis was given to its effectiveness on achieving high outcomes and its ability to address inequities. After that, challenges that faculty face when adopting online teaching were examined, such as faculty satisfaction, faculty burnout, keeping students motivated, developing students' satisfaction, improving student retention, and finally the institutional barriers faculty face when adopting online teaching. Finally, practices that aim to improve the quality of online teaching were introduced.

Chapter 3 - Methodology

Chapter Overview

This study investigated the concerns and professional development needs regarding the adoption of online teaching as expressed by faculty and instructors in the College of Education at King Saud University. The goal was to provide baseline information for instituting a professional development plan for adopting technology use for the purpose of increasing the faculty's ability to offer online courses. This chapter reports all aspects of the research methodology used in this study. It is organized into the following sections: Research questions, research design, research setting, statement about the protection of human subjects, data collection, data analysis, reliability and validity and ethical considerations.

Research Questions

This study investigated the concerns of the faculty of the nine departments of the College of Education at King Saud University regarding the adoption of online teaching and how these concerns relate to their professional development needs. In this study, there were three research questions:

Research Question #1: What is the relationship between full-time faculty personal characteristics (age, gender, country of graduation, and years of teaching experience) and their concerns in adopting online teaching?

Null Hypotheses:

    Ho 1.1. There are no statistically significant differences in faculty concerns in adopting

        online teaching by faculty age.

    Ho 1.2. There are no statistically significant differences in faculty concerns in adopting

        online teaching by faculty gender.

    Ho 1.3. There are no statistically significant differences in faculty concerns in adopting

        online teaching by faculty country of graduation.

    Ho 1.4. There are no statistically significant differences in faculty concerns in adopting

        online teaching by faculty years of teaching experience.

Research Question #2: What type of relationship exists between faculty contextual characteristics (administrative support of online teaching, department, and academic rank) and their concerns in adopting online teaching?

Null Hypotheses:

    Ho 2.1. There are no statistically significant differences in faculty concerns in adopting

        online teaching by faculty administrative support of online teaching.

    Ho 2.2. There are no statistically significant differences in faculty concerns in adopting

        online teaching by faculty department affiliation.

    Ho 2.3. There are no statistically significant differences in faculty concerns in adopting

        online teaching by faculty academic rank.

Research Question #3: To what extent do full-time faculty's technographic characteristics (prior instructional technology use, technology-related professional development, and attitudes toward online teaching) influence faculty use of technology in teaching?

Null Hypotheses:

> *Ho 3.1.* There are no statistically significant differences in faculty use of technology in teaching by faculty prior instructional technology use.

> *Ho 3.2.* There are no statistically significant differences in faculty use of technology in teaching by technology-related professional development needs.

> *Ho 3.3.* There are no statistically significant differences in faculty use of technology in teaching by faculty attitudes toward online teaching.

Research Design

A non-experimental, cross-sectional survey design was used to address the research questions. This study collected quantitative data through close-ended questions on the survey. The cross-sectional survey design is particularly suited for collecting data on many variables simultaneously for a large group of subjects, and enables the researcher to present an overview of the pervasive opinions or attitudes as well as explore relationships with other characteristics (Dillman, Smyth, & Christian, 2009). This is practical when trying to conclude whether or not relationships exist between faculty concerns when adopting online teaching and their personal, contextual, and technographic characteristics.

To analyze the quantitative data from the closed-ended questions, descriptive statistics (mean and standard deviation) were used. A series of Multivariate Analysis of Variance

(MANOVA) tests was used to find values of significance. MANOVA tests whether or not there are statistically significant mean differences among groups on multiple dependent variables. Unlike MANOVA, the Analyses of Variance (ANOVA) is inadequate to perform a test on groups' differences on several dependent variables. The only way to test multiple dependent variables using ANOVA is by conducting ANOVA multiple times, once for each dependent variable, and that increases the chance of Type I error.

SPSS provides four different test statistics based on the MANOVA table, including: Pillai Trace, Wilk's Lambda, Hotelling Trace, and Roy's largest root. Pillai's Trace test was selected to determine statistical significance at the .05 level. When the assumption of homogeneity of variance-covariance matrices and equal cell sizes are violated, Pillai's Trace test is found to be more robust than the other tests (Field, 2013). If the MANOVA revealed statistically significant differences, then an Analysis of Variance (ANOVA) test was conducted to identify values of significance. Additionally, a series of Tukey post hoc tests was conducted to determine where differences between groups exist. Tukey's test is considered robust. If the difference between the means of two groups is greater than Tukey's test, then the two groups can be considered different with confidence. Furthermore, an *eta* test for Strength of Association was reported to measure the strength of the relationships between the variables.

Research Setting

This study was conducted in the College of Education at King Saud University. King Saud University is a public university in Riyadh, Saudi Arabia, that was founded in 1957 as the first university in the country. Its student body exceeded 60,000 and the number of its faculty members is more than 6,000 (Ministry of Education, 2014). It has 19 colleges that offer courses

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in natural sciences, humanities, health, and professional studies (King Saud University, 2014a). The university has two separate campuses, one for male students and the other for female students. Generally, female students are only taught by female instructors, but because of shortage in female instructors, male instructors sometimes teach female students via a closed television network (Mirza, 2008).

The College of Education was founded in 1967. It has nine departments that offer 20 programs: Six bachelor's programs, eight master's programs, and six Ph.D. programs (College of Education, 2015). The departments of the College of Education are: Educational Policy Studies, Psychology, Curriculum and Instruction, Art Education, Educational Technology, Special Education, Educational Management, Islamic Studies, and Quranic Studies. The total number of the faculty members in all departments is 688 (College of Education, 2015).

The Deanship of E-Learning and Distance Learning at King Saud University was established in 2007 (Deanship of E-Learning and Distance Learning at King Saud University, 2008). It was assigned the task of supervising e-learning systems and trains both the faculty members and students to use them. Currently, the university uses the learning management system "Blackboard" and the virtual classroom system "Elluminate Live" for administration, documentation, tracking and delivery of the online courses (Deanship of E-Learning and Distance Learning at King Saud University, 2008). The College of Education has a special unit for e-learning that cooperates with the Deanship of E-Learning and Distance Learning to train and support the faculty member in using different e-learning systems.

Selecting the Population

The population of this study included male and female Professors, Associate Professors, Assistant Professors, Lecturers, and Teaching Assistants from the nine departments of the College of Education at King Saud University. The departments are: Educational Policy Studies, Psychology, Curriculum and Instruction, Art Education, Educational Technology, Special Education, Educational Management, Islamic Studies, and Quranic Studies. In Saudi Arabia, Lecturers and Teaching Assistants have full-time positions and are accorded status as faculty upon doctoral completion (Al-Sarrani, 2010). The College of Education is divided between two campuses (males' campus and females' campus), and each one of the targeted departments is divided by gender.

The total faculty population is 688, comprised of 100 Professors, 121 Associate Professors, 192 Assistant Professors, 160 Lecturers, and 115 Teaching Assistant (see Table 3.1 for faculty population by academic rank). The population consisted of 50% female faculty and 50% male faculty members (see Table 3.2 for faculty population by gender).

Table 3.1 Faculty Population by Academic Rank (College of Education, 2015)

Department	Professor	Associate Professor	Assistant Professor	Lecturer	Teaching Assistant
Educational Policy Studies	10	4	22	19	2
Psychology	10	13	38	22	27
Curriculum and Instruction	20	37	26	22	14
Art Education	1	4	14	14	0
Educational Technology	3	2	9	2	14
Special Education	7	15	16	26	19
Educational Management	8	11	9	6	2
Islamic Studies	36	28	46	39	31
Quranic Studies	5	7	12	10	6
Total by Academic Rank	*100 (15%)*	*121 (17%)*	*192 (28%)*	*160 (23%)*	*115 (17%)*

Total Population 688

Table 3.2 Faculty Population by Gender (College of Education, 2015)

Department	Male	Female
Educational Policy Studies	17 (30%)	40 (70%)
Psychology	50 (45%)	60 (55%)
Curriculum and Instruction	65 (54%)	54 (46%)
Art Education	10 (30%)	23 (70%)
Educational Technology	18 (60%)	12 (40%)
Special Education	33 (40%)	50 (60%)
Educational Management	21 (58%)	15 (42%)
Islamic Studies	101 (56%)	79 (44%)
Quranic Studies	29 (72%)	11 (28%)
Total by Gender	*344 (50%)*	*344 (50%)*

Protection of Human Subjects

The researcher completed the Institutional Review Board (IRB) modules (see Appendix M). In accordance with the guidelines of the Kansas State University's Committee for Research Involving Human Subjects, an Application for Approval Form was submitted prior to the study and an IRB approval was obtained (See Appendix A). Participants were given a consent form (see Appendix B) with the information needed to make an informed decision on whether or not to participate in the research study. Participants were informed that their identities and survey

responses would be kept confidential by the researcher. Participants were informed that the results of the study are available to them upon request.

Data Collection Methods

Data were collected for this study through closed-ended survey questions. Weisberg, Krosnick and Bowen (1996) stated, "many researchers believe that the best way to find out what people like and believe is to ask them" (p. 16). Two modes were simultaneously used to collect data for this study: Paper survey and electronic survey. Using two modes to collect data is increasingly common because it improves response rates and reduces coverage and nonresponse error (Dillman et al., 2009). The only drawback of using a second mode to collect data is the increased cost of the implementation, but in this study the cost was minor compared to the benefit.

In the survey cover letter, participants were informed that their participation is voluntary and there is no penalty if they did not participate. They were also assured that the survey is anonymous and the participants will not, and cannot, be identified by name or by any other means. Participants were also informed that the results of the study will be available at their request. The support letter from the dean of the College of Education at King Saud University (see Appendix F and G) was attached with the survey.

Survey Administration

The survey was first distributed on October 27, 2015. A paper survey was delivered by the researcher to every male faculty member's mailbox. The survey included an optional alternative link to the electronic survey and a support letter from the dean of the College of

Education. The researcher had no access to the females' campus, since males are not allowed to enter it. Furthermore, there was no official or guaranteed method to deliver the paper survey there. The researcher had to contact two female faculty members in the College of Education and ask his two sisters to help him deliver the survey, and all the follow-ups, to the females' campus. In the same day, the dean of the College of Education sent an official email that included a link to the electronic survey to every faculty member in the college encouraging them to participate in the study.

The researcher requested from the College of Education to give him the emails of the faculty members so he can send personalized reminders and survey follow-ups to the faculty but his request was denied for only bureaucratic reasons. Fortunately, the university has a webpage for every faculty member that contains his/her contact information, and the researcher was allowed to collect the emails manually and contact the faculty members.

After collecting the faculty emails the researcher was worried that if he used any automatic method to personize and send the emails that will result in classifying the survey as spam, so he decided to personalize and send the emails manually. The process of collecting the faculty emails, personalize the reminders, and send it to them took more than a week, but it was the most successful method, most responses came through the personalized emails.

After two weeks, on November 11, 2015 the first follow-up paper survey was distributed to the males' and females' campus. A stronger letter of support from the Dean of College of Education (See Appendix G) was obtained and attached to the survey to increase the faculty's motivation to participate. On the same day, a personalized email that included the name and title was sent by the researcher to all faculty members to encourage them to participate. A significant body of research has found that survey personalization is an effective means for increasing the

response rate (Dillman et al., 2009). According to Dillman and associates (2009), "if the request is not personalized, it is very easy for respondents to ignore it, using the rationale that others in the group will surely respond" (p. 237).

Most faculty use the instant messaging application WhatsApp extensively, and most departments in the College of Education have chat groups to send announcements to the faculty. Consequently, the researcher updated the electronic survey and made it mobile-friendly so it could be easily accessed and completed using a tablet-pc or a smart phone and then sent back through WhatsApp to the faculty chat groups.

After two weeks, on November 25, 2015, a second follow-up, both paper survey and personalized email, was distributed. Unlike the first follow-up, the number of responses to the second follow-up was very low, which indicated that sending a third follow-up is not going to be effective. To get more responses, the researcher visited the faculty's offices most days of the week to remind and encouraged them to participate in the study. The visits took place from the beginning of the distributing the survey and until December 10, 2015. The data were collected in 45 days.

Survey Preparation

The survey in this study contained 62 questions divided among five sections: (1) Attitudes towards teaching online; (2) Administrative support for online teaching; (3) Stages of concern about online teaching; (4) Professional development needs and prior instructional technology use; and (5) Demographic information. The survey included the following sections:

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- Section I: The first section (questions 1 - 4) of the survey measured the faculty attitudes towards online teaching. This section was revised from Yidana's (2007) study (see Appendix L for Yidana's permission).

- Section II: The second section of the survey (questions 5 and 6) is intended to measure the administrative support for online teaching. It was revised from Petherbridge's (2007) (2007) (see Appendix K for Petherbridge's permission).

- Section III: The Stages of Concern Questionnaire (SoCQ) (questions 7 – 41). The copyright of the SoCQ is maintained by the Southwest Educational Development Laboratory (SEDL) in Austin, Texas. Permission was granted from SEDL to reprint and distribute the questionnaire (see Appendix C). This section of the survey was designed to obtain a deep understanding of faculty concerns when adopting online teaching.

- Section IV: The fourth section of the survey (questions 42 - 58) measured the perceived professional development needs of the faculty in adopting online teaching and their prior instructional technology use. Questions 42-45 were revised from Yidana (2007) (Appendix L), while the questions (46-57) were revised from Petherbridge (2007) (Appendix K). Questions 58 was an open-end questions added to gain more understating of the answers in this section.

- Section V: The demographic information section included gender, age, country of graduation, department, years of teaching experience, and academic rank to identify demographic characteristics of the participants.

Table 3.3 Survey Preparation Summary

Research Question	Variable	Survey Questions
Research Question One	Stages of Concern	Questions 7 – 41
	Age	Demographic Section
	Gender	Demographic Section
	Years of Teaching Experience	Demographic Section
	Country of Graduation	Demographic Section
Research Question Two	Stages of Concern	Questions 7 – 41
	Administrative Support	Question 5 & 6
	Department	Demographic Section
	Academic Rank	Demographic Section
Research Question Three	Faculty Use of Technology	Questions 52 – 55
	Prior Instructional Technology Use	Questions 46 – 51 & 56 & 57
	Technology-Related Professional Development	Questions 42 – 45
	Attitudes Toward Online Teaching	Questions 1 – 4

Stages of Concern Questionnaire

The most rigorous technique for assessing the stages of concern is the Stages of Concern Questionnaire (SoCQ) (Hall & Hord, 2014). It is used to discover how individuals think and feel about a change and whether or not the change actually occurs (Hall & Hord, 2014). The SoCQ is a 35-item questionnaire with five questions for each stage of concern. It has strong reliability estimates (test/retest reliabilities range from .65 to .86) and internal consistency (alpha-coefficients range from .66 to .83) (Gene et al., 2013). The SoCQ was constructed to apply to all educational innovations (Hall & Hord, 2014). Responses to the SoCQ can be used to construct

concerns profiles. The questionnaire has been designed so that a raw score is calculated for each stage, and then a profile can be built in the form of a graphic representation (see Figure 3.1). The profile graphically presents the relatively more and relatively less intense Stages of Concern. According to George, Hall, and Stiegelbauer (2006), the SoCQ has three advantages: Strong reliability and validity, a complete set of data of concerns, and it can be administrated to the same group of people over a long time to track the change in their concerns.

Figure 3.1 Stages of Concern Profile (Hall & Hord, 2014)
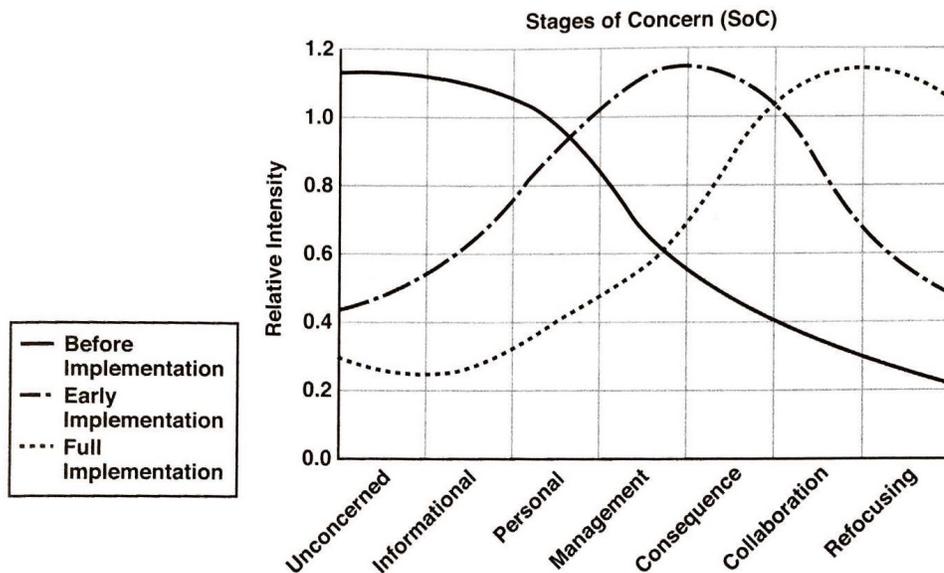
Scoring the Stages of Concern Questionnaire

The SoCQ is a 35-item questionnaire with five questions for each stage of concern. Each statement expressed a specific concern about online teaching. Respondents indicated the degree to which each concern is true for them by marking a number on 0-7 scale next to each statement. High numbers indicted high concern, and low numbers indicated low concerns, and zero indicated that the item is irrelevant.

Scoring the questionnaire required calculating the raw scores for each of the seven stages for all respondent and after that calculating the average score for every stage. Before the score for each stage can be interpreted they needed to be converted to percentile scores using a provided table from the authors of CBAM (George et al., 2006). The percentiles are based on the responses of 830 individuals who completed the 35-item questionnaire in fall of 1974. The individuals were a carefully selected stratified sample, from elementary school and higher education institutions (George et al., 2006).

External Validity

External validity is "the degree to which research results are generalizable to participants, settings, and materials beyond those actually included in the study" (Warner, 2013, p. 1086.) In the context of this study, as mentioned in the delimitations of the study, the researcher's main focus is to investigate the concerns and the professional development needs of a clearly defined population, that is the College of Education at King Saud University.

Internal Validity

Internal validity ensures that a study measures what it is actually intended to measure. According to Warner (2013), internal validity is "the degree to which results from a study can be used as evidence of a causal connection between variables" (p. 1093). According to George, Hall, and Stiegelbauer (2006), a series of studies were conducted to investigate the validity of the questions in the SoCQ through testing how the scores of the seven stages relate to each other and to other variables. The most convincing demonstrations of the validity of the SoCQ took place when the 35-item of the questionnaire were used in cross-sectional and longitudinal studies of 11 educational innovations (George et al., 2006). The researchers interviewed the respondents

about their concerns, and then the interview tapes were analyzed to determine the participants'

stages of concerns. After that, the researchers administered the SoCQ and contrasted its result

with the ratings from the interviews. The general conclusion was that the SoCQ accurately

measures what it is intended to measure (George et al., 2006).

Reliability

Reliability is "the ability of a measure to produce consistent results when the same

entities are measured under different conditions" (Field, 2013) (p. 882). To confirm the

reliability of the SoCQ, a study was conducted in 1974 on 830 teachers and professors (George

et al., 2006). The study found coefficients of internal reliability for the seven stages of concerns

varying from the lowest of (.64) to the highest of (.83) (see Table 3.4 for more details). In Social

Science literature, an alpha of .7 or greater is considered acceptable, while alphas below .6 are

considered unacceptable (Neill, 2004). Furthermore, the questionnaire has been used in an

extensive amount of studies and its reliability was ensured many times (see Table 3.5 for a

summary of the reliability estimates and alpha coefficients in some of these studies).

Table 3.4 The Internal Reliability Coefficients for the Seven Stages in SoCQ (George et al., 2006)

Stage	Unconcerned	Informational	Personal	Management	Consequence	Collaboration	Refocusing
Alpha	0.64	0.78	0.83	0.75	0.76	0.82	0.71

Table 3.5 Coefficients of Reliability for the Seven Stages in SoCQ By Researcher (George, Hall & Stiegelbauer, 2006)

Authors	Sample Size	Stages of Concern						
		0	1	2	3	4	5	6
Hall, George & Rutherford, 1979	830	.64	.78	.83	.75	.76	.82	.71
Van den Berg & Vandenberghe, 1981	1585	.77	.79	.86	.80	.84	.80	.76/ .73*
Kolb, 1983	718	.75	.87	.72	.84	.79	.81	.82
Barucky, 1984	614	.60	.74	.81	.79	.81	.79	.72
Jordan-Marsh, 1985	214	.50	.78	.77	.82	.77	.81	.65
Martin, 1989	388	.78	.78	.73	.65	.71/ .78*	.83	.76
Hall et al., 1991	750	.63	.86	.65	.73	.74	.79	.81
In these studies, the authors proposed two subscales in place of the original SoC scale.								

Data Analysis

The data collected from the closed-ended questions was analyzed using descriptive statistics (means and standard deviations). A series of Multivariate Analysis of Variance (MANOVA) tests was used to find values of significance. The Pillai's Trace test was utilized to determine statistical significance at the .05 level. If MANOVA revealed statistically significant differences, then Analysis of Variance (ANOVA) tests were conducted to identify values of significance. Additionally, a series of Tukey post hoc tests was conducted to determine where differences between groups exist. Furthermore, an *eta* test for Strength of Association was reported to measure the strength of the relationships between the variables.

To assess the relationship between faculty characteristics (e.g., age, gender, country of graduation) and the stages of concern in adopting online teaching, MANOVA tests were conducted. The seven independent variables in MANOVA tests were variables that represented the stages of concerns: unconcerned, informational, personal, management, consequence, collaboration, and refocusing. The dependent variable in each test was one of the characteristics.

Assumptions of linearity, homogeneity of variance-covariance, and normality were met. When Levene's test of equality of error variances among the dependent variables of this study revealed a significance of less than .05; thus, Pillai's Trace statistic was used. Pillai's Trace statistic is robust, especially when the assumption of homogeneity of variance-covariance matrices and equal cell sizes are violated (Field, 2013). Additionally, when a difference was found in the ANOVA, a series of Tukey's post hoc tests were conducted to determine where differences between groups exist. Tukey's test is considered robust. The researcher can be

confident that, if the difference between the means of two groups is greater than Tukey's test, then the two groups can be considered different.

Independent Variables

An independent variable refers to a treatment variable that is "manipulated by the experimenter and so its value does not depend on any other variables experimenter" (Field, 2013, p. 877). The independent variables in this study are:

- Demographic variables: Age, gender, country of graduation, and years of teaching experience.

- Contextual variables: Administrative support of technology, department, and academic rank.

- Technographic variables: Prior instructional technology use, technology-related professional development, and attitudes toward teaching with technology.

Dependent Variables

A dependent, or outcome, variable is one that is "not manipulated by the experimenter and so its value depends on the variables that have been manipulated" (Field, 2013, p. 873). Dependent variables in this study are: (1) Stages of concern; (2) Faculty use of instructional technology. A summary of independent and dependent variables in this study and their data scales are listed in the following table:

Table 3.6 A Summary of the Independent and the Dependent Variables in the Study

Variables	Data Scale
Independent Variables	
Age	Interval
Gender	Nominal
Country of graduation	Nominal
Years of teaching experience	Interval
Administrative support	Interval
Department	Ordinal
Academic rank	Ordinal
Faculty prior instructional technology use	Interval
Faculty perceptions of technology-related professional development	Interval
Faculty attitudes towards teaching with technology	Interval
Dependent Variables	
Stages of Concern	Interval
Faculty use of instructional technology	Interval

Descriptive Statistics

Analysis of data involved the use of descriptive statistics to describe the sample.

Descriptive statistics are "Statistics that are reported merely as information about the sample of

observation included in the study and that are not used to make inferences about some larger

population" (Warner, 2013, p. 1082). Descriptive statistics were used to describe the

demographics and contextual characteristics of the sample, including information about ages,

genders, countries of graduation, and years of teaching experience.

Inferential Statistics

Inferential statistics are "Statistics involve using descriptive statistics for a sample to make inference or estimate about the value of a corresponding population parameter" (Warner, 2013, p. 1092). Since the participants of this study was the entire population, rather than a random sample, any statistically significant differences were reported as true indicators for differences rather than probable differences.

To determine if significant differences exist between variables, a series of one-way Multivariate Analysis of Variance (MANOVA) tests was conducted. An alpha level of .05 or less has been selected for this study. MANOVA tests whether or not there are statistically significant mean differences among groups on multiple dependent variables. Unlike MANOVA, the Analyses of Variance (ANOVA) is inadequate to perform a test on groups' differences on several dependent variables. The only way to test multiple dependent variables using ANOVA is by conducting ANOVA multiple times, once for each dependent variable. Field (2013) emphasized the advantages of MANOVA over ANOVA in a test like this by stating:

> When we carry out multiple tests on the same data the Type I error [incorrect rejection of a true null hypothesis] start to mount up. For this reason, we should not really conduct separate ANOVA on each outcome variable. Also, if separate ANOVAs are conducted on each outcome, then any relationship between dependent variables is ignored and we lose this important information. MANOVA, by including all dependent variables in the same analysis, takes account of the relationship between these variables. (p. 624)

The study reported any statistical significance difference, and the degree and the strength of the associations. Since the variables in this study were from different categories (i.e.,

Nominal, Interval, and Ordinal), an *eta* test for Strength of Association was used for measuring relationships between the nominal and interval variables. The result of the *eta* test can range from 0 to +/- 1.00. The .00 result indicated no association at all, +1.00 and -1.00 indicated strong association, and the positive and negative signs indicate direction.

The MANOVA test has two assumptions: The assumption that the dependent variables have multivariate normality within groups (the normality), and the assumption that that the variances in each group are roughly equal (homogeneity of variance) (Field, 2013). Assumptions of linearity, homogeneity of variance-covariance, and normality were met.

SPSS provides four different test statistics based on the MANOVA table, including: Pillai Trace, Wilk's Lambda, Hotelling Trace, and Roy's largest root. Pillai's Trace test was selected to determine statistical significance at the .05 level. While in some research Wilk's Lambda is reported, in other cases, especially when the assumption of homogeneity of variance-covariance matrices and equal cell sizes are violated, Pillai's Trace is found to be more robust (Field, 2013). When Levene's test of equality of error variances among the dependent variables revealed a significance equal or less than .05, then, Pillai's Trace statistic was reported. Additionally, when a difference was found in the ANOVA, a series of Tukey post hoc tests were conducted to determine where differences between groups exist. Tukey's test is considered robust. The researcher can be confident that, if the difference between the means of two groups is greater than Tukey's test, then the two groups can be considered different.

The coefficient of determination was calculated by squaring *eta* (eta^2) that assesses the proportion of variance in one variable that can be determined or explained by a second variable (Warner, 2013). An *eta* value greater than 0 indicates a positive association and that means when the value of one variable increases the value of the other variable increases, as well. While

a value less than 0 indicate a negative association and that means when the value of one variable increases the value of the other variable decreases (Warner, 2013). For instance, if *eta* is + .70 (or − .70), squaring it makes *eta^2* equal .49 (or 49%). This means that almost half (49%) of the variability in one variable can be determined or explained by the other variable, so it can be concluded, for example, that faculty attitudes towards teaching with technology explains 49% of faculty's stage of concern (when *eta^2* = .49).

Reliability

Reliability is "the ability of a measure to produce consistent results when the same entities are measured under different conditions" (Field, 2013, p.882). The researcher performed reliability tests on the responses to the closed-ended questions of the study. The reliability of the SoCQ is extremely high. To insure the reliability of the SoCQ, a study was conducted in 1974 on 830 teachers and professors (George et al., 2006). The study found coefficients of internal reliability for the seven stages of concern varying from the lowest of (.64) to the highest of (.83). The questionnaire has been used in extensive amount of studies and its reliability was ensured (George et al., 2006) (see Table 3.4 for a summary of the reliability estimate and alpha coefficients in some of these studies).

Validity

The validity of the measuring instrument refers to "evidence that a study [instrument] allows correct inferences about the question it was aimed to answer" (Field, 2013, p.885). In this study there were two suspected threats to the validity, and they are:

- Mortality: Refers to subject changes during the course of the measurement (Cook & Campbell, 1979). In this study, a certain group of participants might drop out or not

participate. For instance, the female faculty might not participate for any unforeseen reason. In this case, mortality may prevent equal distribution among the groups and lead to a lack of generalizability.

- Interaction of selection and treatment: This threat occurs when participants who agree to participate in this study may differ substantially from those who refuse, thus the obtained results may not be generalizable (Cook & Campbell, 1979). For instance, there is a chance that the faculty members who will participate are the younger faculty who are more enthusiastic to technology. In this case, there will be a substantial difference based on age between those who participated in the study and those who refused.

Ethical Considerations

Kansas State University (KSU) Institutional Review Board (IRB) approval was acquired prior to the data collection procedures (See Appendix A). The six IRB training modules were completed (see Appendix M). The main ethical considerations in this study were protecting the rights of participants through informed consent, protecting participants from harm, and ensuring confidentiality. Participants in this study were informed clearly of their right to decide whether to participate or not and of their right to confidentiality. The researcher took reasonable precautions to maintain confidentiality and anonymity for the faculty in the study. Data was stored in a locked cabinet and coding was used for participants for confidentiality.

Chapter 4 - Data Analysis and Findings

Chapter Overview

This study investigated the concerns and professional development needs regarding the adoption of online teaching as expressed by faculty in the College of Education at King Saud University. The study used a survey with closed-ended questions to collect data. The survey was sent to 450 faculty members of the nine departments in the College of Education (Educational Policy Studies, Psychology, Curriculum and Instruction, Art Education, Educational Technology, Special Education, Educational Management, Islamic Studies, and Quranic Studies). The number of received surveys was 308, and 296 surveys were considered usable. The 12 unusable surveys were considered unusable because the respondents did not answer any demographic questions (although they answered all or most of the other questions). The response rate was 66%. Among the 296 returned surveys, 130 were paper surveys and 166 were electronic surveys.

This chapter presents the data analysis and the findings in two sections. The first section provides the descriptive statistics. It illustrates the frequencies and the percentages of the respondents' demographic characteristics (age, gender, country of graduation, and years of teaching experience); contextual characteristics (administrative support of technology, department, and academic rank); and technographic characteristics (prior instructional technology use, technology-related professional development, and attitudes toward teaching with technology).

The second section presents the inferential statistics. It shows the results from the

MANOVA tests for the first, second, and third research question. When any significant result

was found, the chapter reported the follow-up ANOVA and Tukey's post hos test results.

All data analyses were performed using SPSS version 23. The tables were constructed

using SPSS 23 and the figures were constructed using Microsoft Excel 2016.

Research Questions

This study investigated the concerns of the faculty of the nine departments of the College

of Education at King Saud University regarding the adoption of online teaching and how these

concerns relate to their professional development needs. There were three research questions:

Research Question #1: What is the relationship between full-time faculty personal

characteristics (age, gender, country of graduation, and years of teaching experience) and their

concerns in adopting online teaching?

Null Hypotheses:

> *Ho 1.1.* There are no statistically significant differences in faculty concerns in adopting
>
> > online teaching by faculty age.
>
> *Ho 1.2.* There are no statistically significant differences in faculty concerns in adopting
>
> > online teaching by faculty gender.
>
> *Ho 1.3.* There are no statistically significant differences in faculty concerns in adopting
>
> > online teaching by faculty country of graduation.
>
> *Ho 1.4.* There are no statistically significant differences in faculty concerns in adopting
>
> > online teaching by faculty years of teaching experience.

Research Question #2: What type of relationship exists between faculty contextual characteristics (administrative support of online teaching, department, and academic rank) and their concerns in adopting online teaching?

Null Hypotheses:

Ho 2.1. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty administrative support of online teaching.

Ho 2.2. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty department affiliation.

Ho 2.3. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty academic rank.

Research Question #3: To what extent do full-time faculty's technographic characteristics (prior instructional technology use, technology-related professional development, and attitudes toward online teaching) influence faculty use of technology in teaching?

Null Hypotheses:

Ho 3.1. There are no statistically significant differences in faculty use of technology in teaching by faculty prior instructional technology use.

Ho 3.2. There are no statistically significant differences in faculty use of technology in teaching by technology-related professional development needs.

Ho 3.3. There are no statistically significant differences in faculty use of technology in teaching by faculty attitudes toward online teaching.

Descriptive Statistics

Characteristics of the Respondents

Personal Characteristics

The personal characteristics of the respondents in this study were: Age, country of

gradation, and years of teaching experience. The following sections summarize the respondents'

personal characteristics and present them in tables and charts.

Age

Table 4.1 and Figure 4.1 show that 12% of the respondents were in the age range of 20-

30, 30% were in the age range of 31- 40, 27% were in the age of 41-50, 13% were in the age

range of 51-60, 7% were in the age of 61-70, and 11% did not specify their age.

Table 4.1 The Age Ranges of the Respondents

Age Ranges	*N*	Percentage
20 – 30	35	12%
31 - 40	88	30%
41 - 50	79	27%
51 - 60	38	13%
61 - 70	22	7%
Missing	34	11%
Total	**296**	**100%**

Figure 4.1 Age Ranges of Respondents
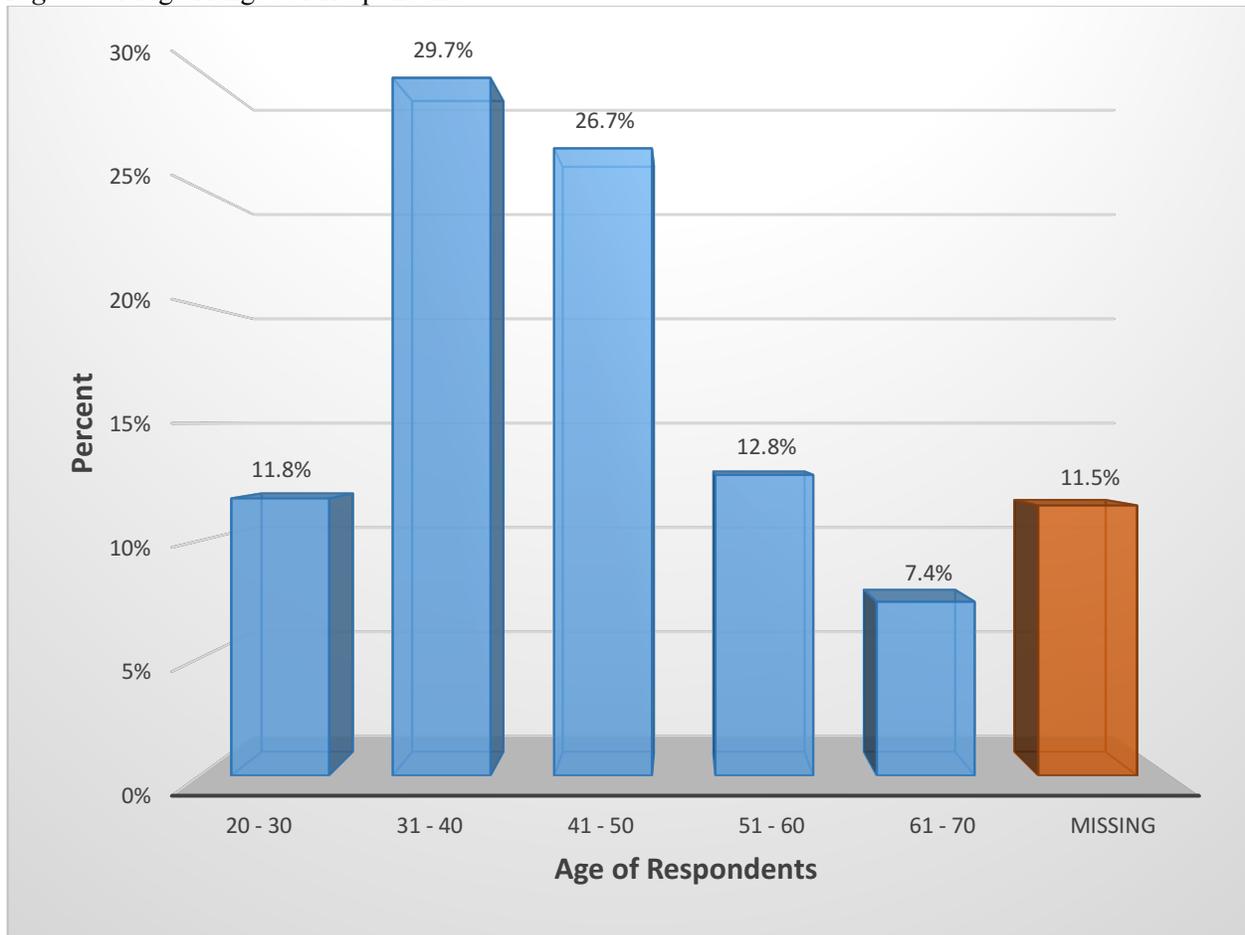
Gender

Table 4.2 and Figure 4.2 show that 43% of the respondents were males and 56% were females. Only 1% of the respondents did not reveal their gender.

Table 4.2 Gender of the Respondents

Gender	N	Percentage
Female	167	56%
Male	126	43%
Missing	3	1%
Total	**296**	**100%**

Figure 4.2 Gender of the Respondents

Gender of the Respondents

1.0%

42.6%

56.4%

- Male
- Female
- Missing
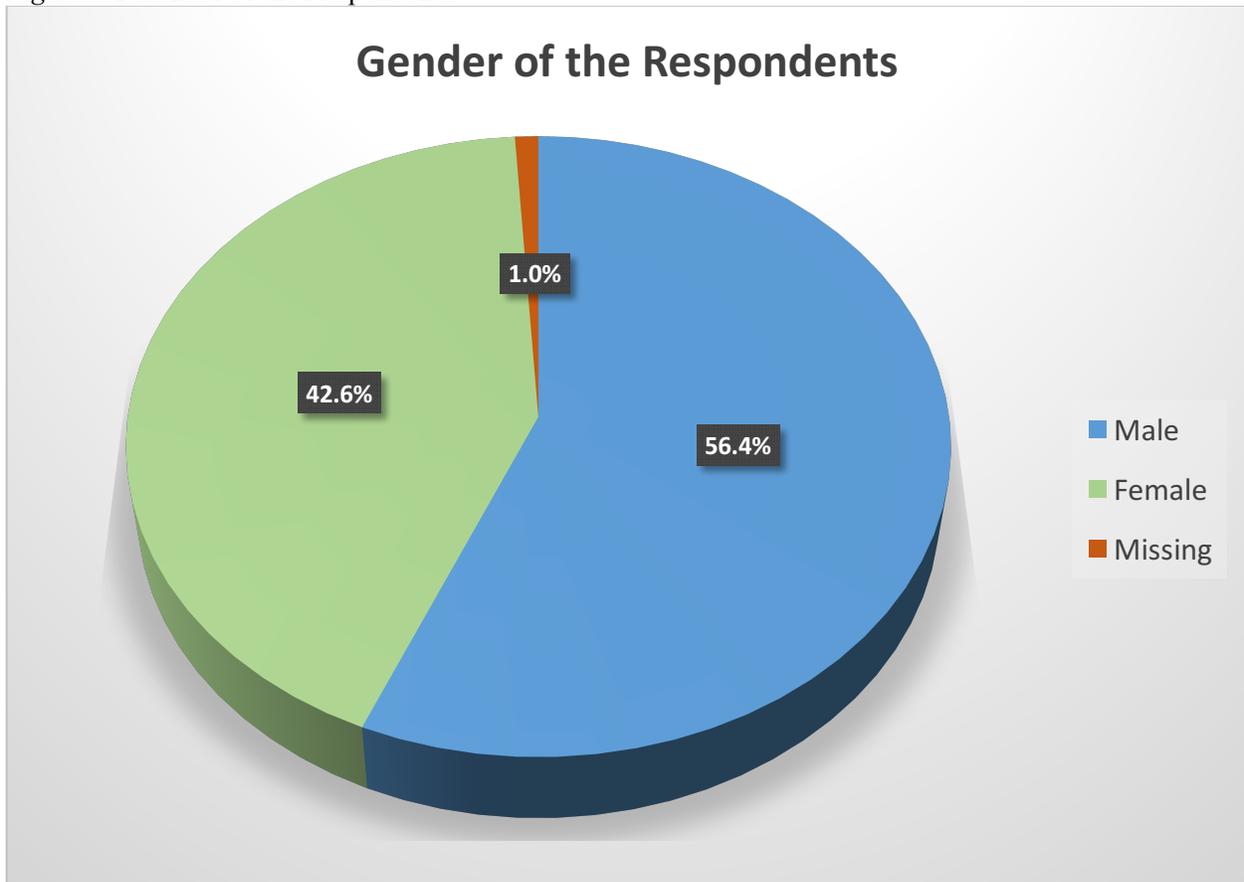
Country of Graduation

Table 4.3 and Figure 4.3 show that 60% of the respondents obtained their last academic degree from institutions in Arabic countries, and 36% obtained their last degree from institutions in non-Arabic countries. Participants who graduated from non-Arabic countries, graduated exclusively from the USA, the United Kingdom, and Australia. Furthermore, 4% of the participants did not report from where they obtained their last degree.

Table 4.3 Country of Graduation

Country of Graduation	N	Percentage
Arab Country	177	60%
Non-Arab Country	105	36%
Missing	14	4%
Total	**296**	**100%**

Figure 4.3 Country of Graduation
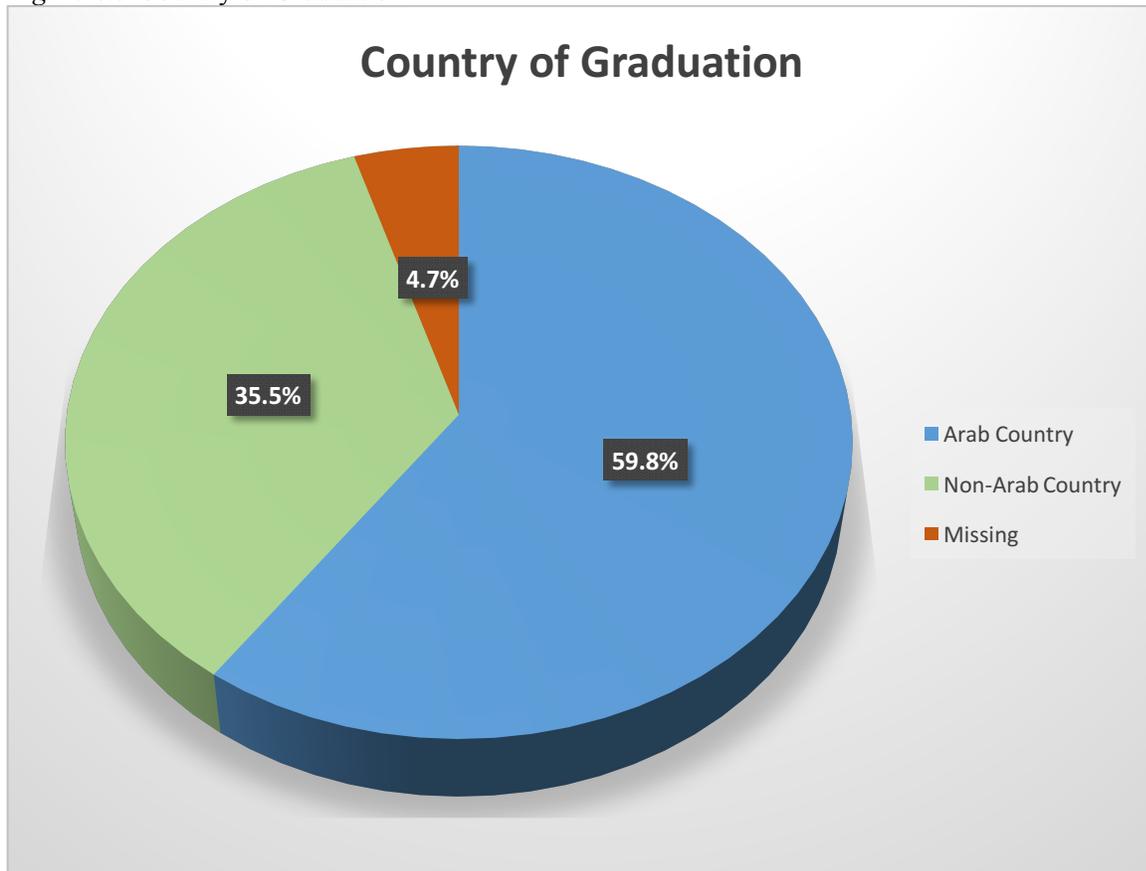
Years of Teaching Experience

Table 4.4 and Figure 4.4 display the faculty years of teaching experience. The largest group is comprised of faculty who taught from one to 10 years, with 54%. The second largest group contained the faculty who taught from 11 to 20 years, with 26%. Then those who taught from 21 to 30 years, with 12%, and the smallest group was the faculty who taught from 31 to 40 years, with 4%. Additionally, 4% did not report how long they have been teaching.

Table 4.4 Years of Teaching Experience

Years of Teaching Experience	N	Percentage
1 – 10	161	54%
11 – 20	78	26%
21 – 30	34	12%
31 – 40	11	4%
Missing	12	4%
Total	**296**	**100%**

Figure 4.4 Years of Teaching Experience
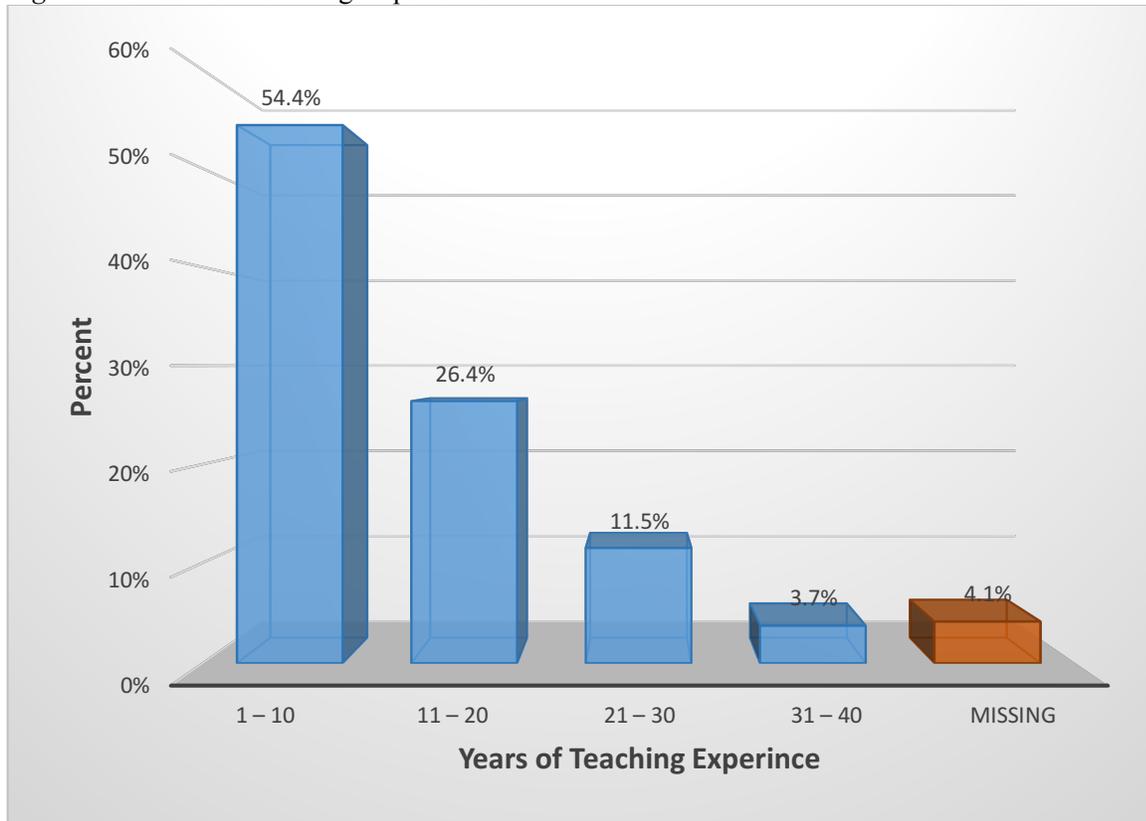
Contextual Characteristics

The contextual characteristics of the respondents in this study were Administrative support of technology, department association, and academic rank. The sections that fallow summarize the respondents' contextual characteristic and represent it via tables and charts.

Administrative Support of Technology

The administrative support of technology was measured on the level of the department via question 5, which included 3 sub-questions, and on the level of the college via question 6, which also included 3 sub-questions. The results of each question are presented via a bar chart and a frequency table that demonstrate how the faculty of the College of Education perceived the administrative support of incorporating technology into teaching.

Questions #5 and #6: Please indicate your agreement with the following statements by circling your response. Rating Scale: "5" indicates a strong agreement (SA), and "1" indicates a strong disagreement (SD). Mark "don't know" (DK) only if you feel you cannot provide an opinion regarding the question.

The respondents' perceptions of administrative support bore a resemblance between the department level and the college level. Almost half of the faculty either agreed or strongly agreed that the college and the department supported their use of technology (47% and 50% respectively), recognized the additional workload to teach with technology (50% and 48%), and communicated with them about the value of technology (53% and 56%). The percentage of the respondents who were neutral in all statements varied only between 20% and 25%.

On the other hand, less than 20% of the respondents either disagreed or strongly disagreed that the college and the department supported their use of technology (17% and 19%), recognized the additional workload to teach with technology (18% and 19%) and communicated with them about the value of technology (21% and 16%). Additionally, the faculty who reported "I Do Not Know" in all statements in this section was below 7% (Maximum 7% and minimum 2%).

Table 4.5 Administrative Support on the Department Level

Statement	Frequency					
	SA	**A**	**N**	**SD**	**D**	**DK**
5.A: Administrators in my department are supportive of faculty members who teach with technology.	63	98	62	26	23	19
5.B: Administrators in my department recognize the additional workload required to teach with technology.	61	86	70	37	16	20
5.C: Administrators in my department communicate with faculty about the value of teaching with technology.	52	98	63	43	18	14

Figure 4.5 Administrative Support on the Department Level
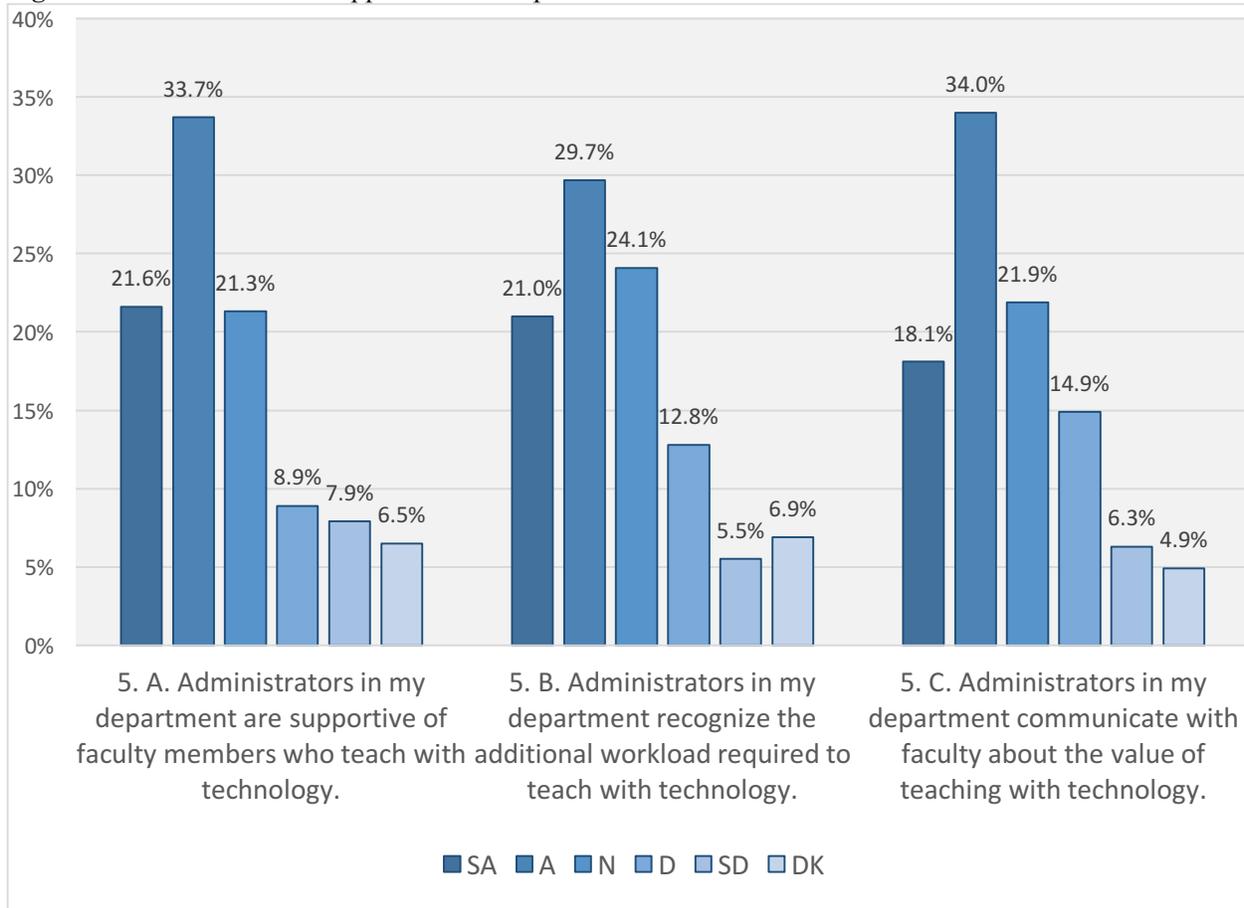
Table 4.6 Administrative Support on the College Level

Statement	Frequency					
	SA	**A**	**N**	**SD**	**D**	**DK**
6.A: Administrators in my college are supportive of faculty members who teach with technology.	44	103	72	43	13	17
6.B: Administrators in my college recognize the additional workload required to teach with technology.	40	101	75	37	19	19
6.C: Administrators in my college communicate with faculty about the value of teaching with technology.	42	122	72	38	8	7

Figure 4.6 Administrative Support on the College Level
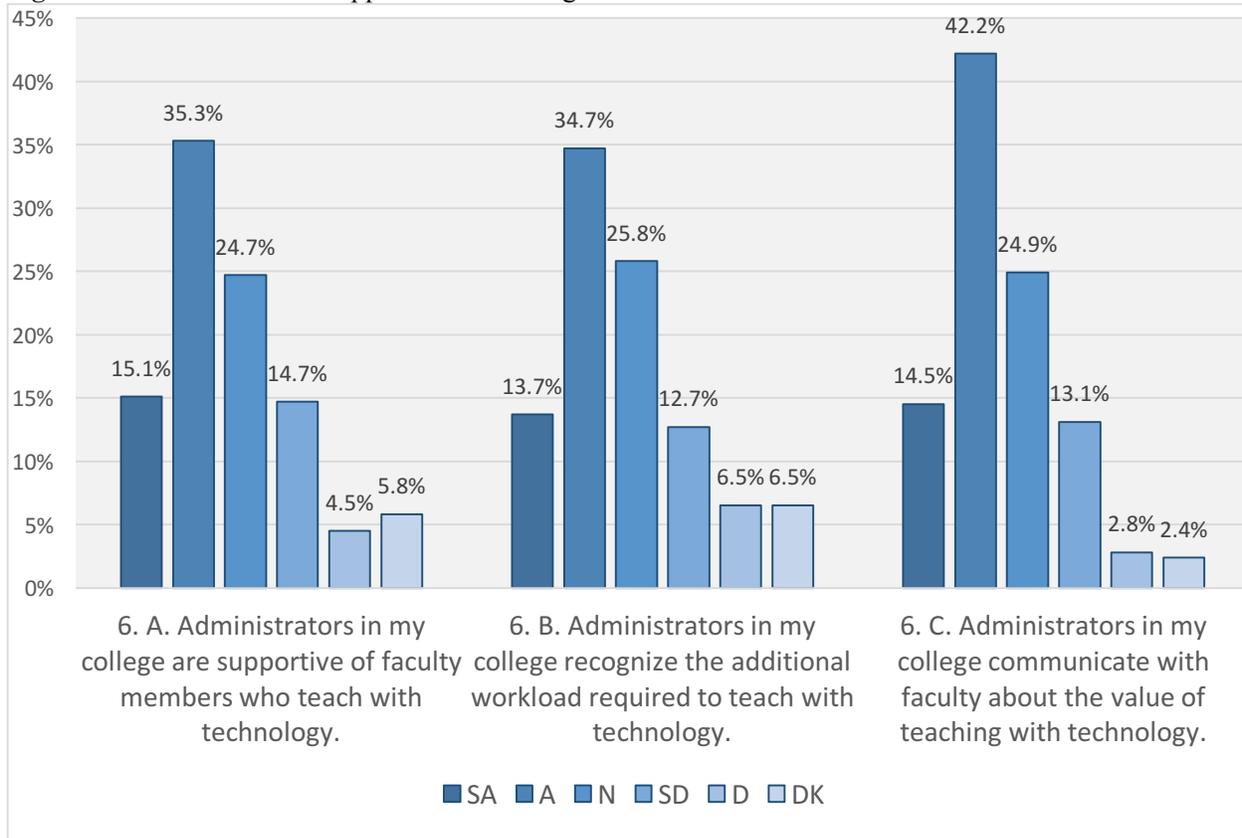
Departments

Table 4.7 and Figure 4.7 represent the department of the respondents. The highest

percentage of respondents were affiliated with the Curriculum and Instruction department (24%)

followed by Special Education (15%), while the lowest percentages were affiliated with the

departments of Educational Management (6%) and Quranic Studies (4%). Although the number

of respondents from the latter departments might appear small but it represents the departments

very well since the number of the respondents comprise more than 55% of the total number of

the faculty in the department.

Table 4.7 Department of the Respondents

Department	N	Percentage
Curriculum and Instruction	70	24%
Special Education	44	15%
Islamic Studies	40	14%
Psychology	37	13%
Educational Policy Study	36	12%
Educational Technology	19	6%
Art Education	18	6%
Educational Management	17	6%
Quranic Studies	11	4%
Missing	4	1%
Total	**296**	**100%**

Figure 4.7 Department of the Respondents
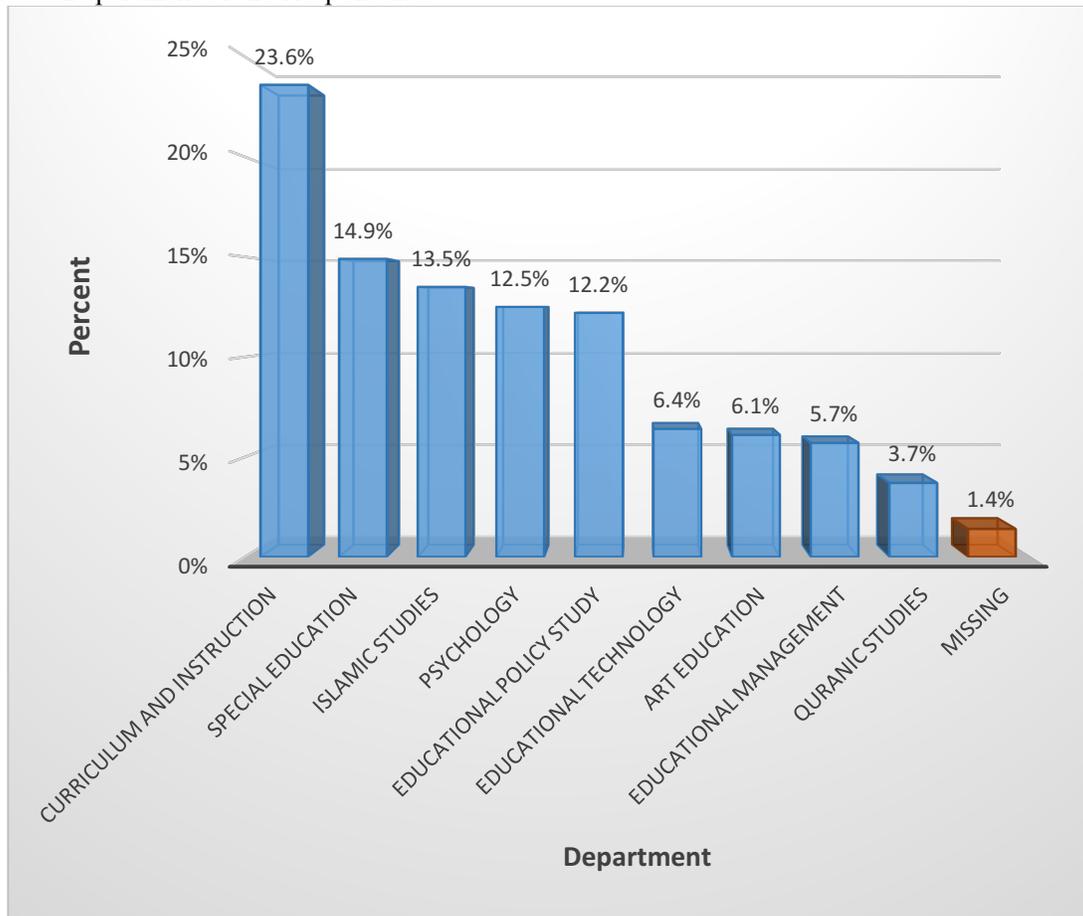
Academic Rank

Of the 296 respondents, 13% were Professors, 21% Associate Professors, 29% Assistant Professors, and 37% were Lecturers and Teaching Assistants. Among the respondents, only two respondents (0.7%) did not report their academic rank.

Table 4.8 Academic Rank of the Respondents

Academic Rank	*N*	Percentage
Professor	37	13%
Associate Professor	61	21%
Assistant Professor	86	29%
Lecturer and Teaching Assistants	110	37%
Missing	2	0.7%
Total	**296**	**100%**

Figure 4.8 Academic Rank of the Respondents
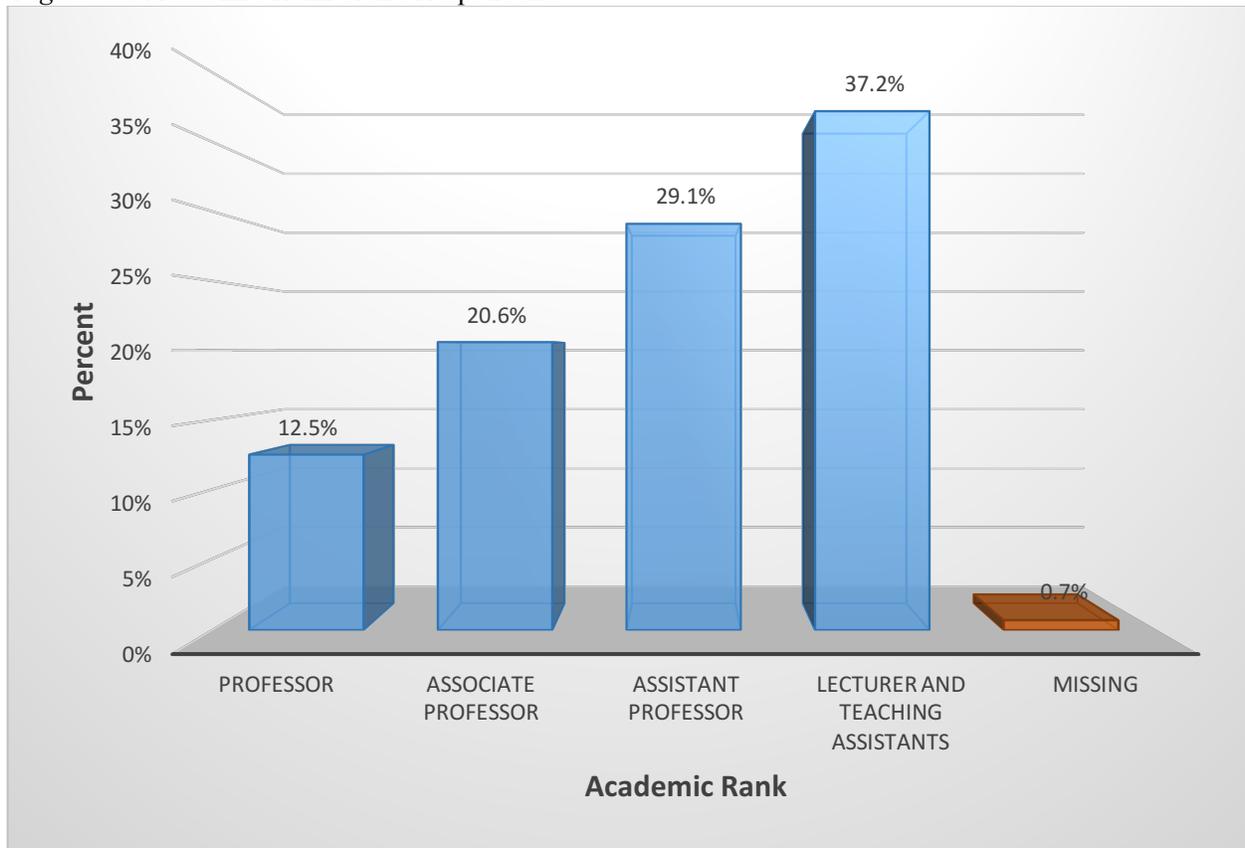
Technographic Characteristics

The technographic characteristics of the respondents in this study were prior use of technology, technology-related professional development, and attitudes toward teaching with technology. The sections that follow summarize the respondents' technographic characteristic and represent it via tables and charts.

Prior Instructional Technology Use

Prior instructional technology use was measured first via five closed-ended questions that investigated what online teaching tools faculty are accustomed to use (#46, #47, #48, #49, #50). The five questions were grouped under one question stem: "Please indicate your experience with

the following online teaching tools." Respondents were asked to specify the number of semesters they use listed technologies. Moreover, prior instructional technology use was measured via two short response questions: one to measure the technology-related professional development hours that respondents attended (#56), and one to assess whether or not the respondent has access to personal assistant in using technology (#57).

Question: "Please indicate your experience with the following online teaching tools."

The most common online teaching tool among respondents was mobile learning apps; 64% of the respondents had used it for at least one semester. The second most common tool was the learning management system; 60% had used it for at least one semester. Using social media tools in teaching was also popular, with 47%. The least common online teaching tool was the web conferencing applications, with 32%. It is also worth noticing that only 16% of the respondents have indicated that they have used online teaching technologies other than the ones listed.

Table 4.9 Prior Use of Online Teaching Tools

Online Teaching Tool	Number of Semesters of Use					Total Number of Users	Percentage
	+3	3	2	1	0		
Q #46. Learning Management Systems	85	17	32	43	115	177	60%
Q #47. Web Conferencing Applications	32	10	18	34	195	94	32%
Q #48. Mobile Learning Apps	96	26	28	38	104	188	64%
Q #49. Social Media Tools	49	22	29	38	153	138	47%
Q #50. Other	19	7	13	7	149	46	16%

Figure 4.9 Prior Use of Online Teaching Tools
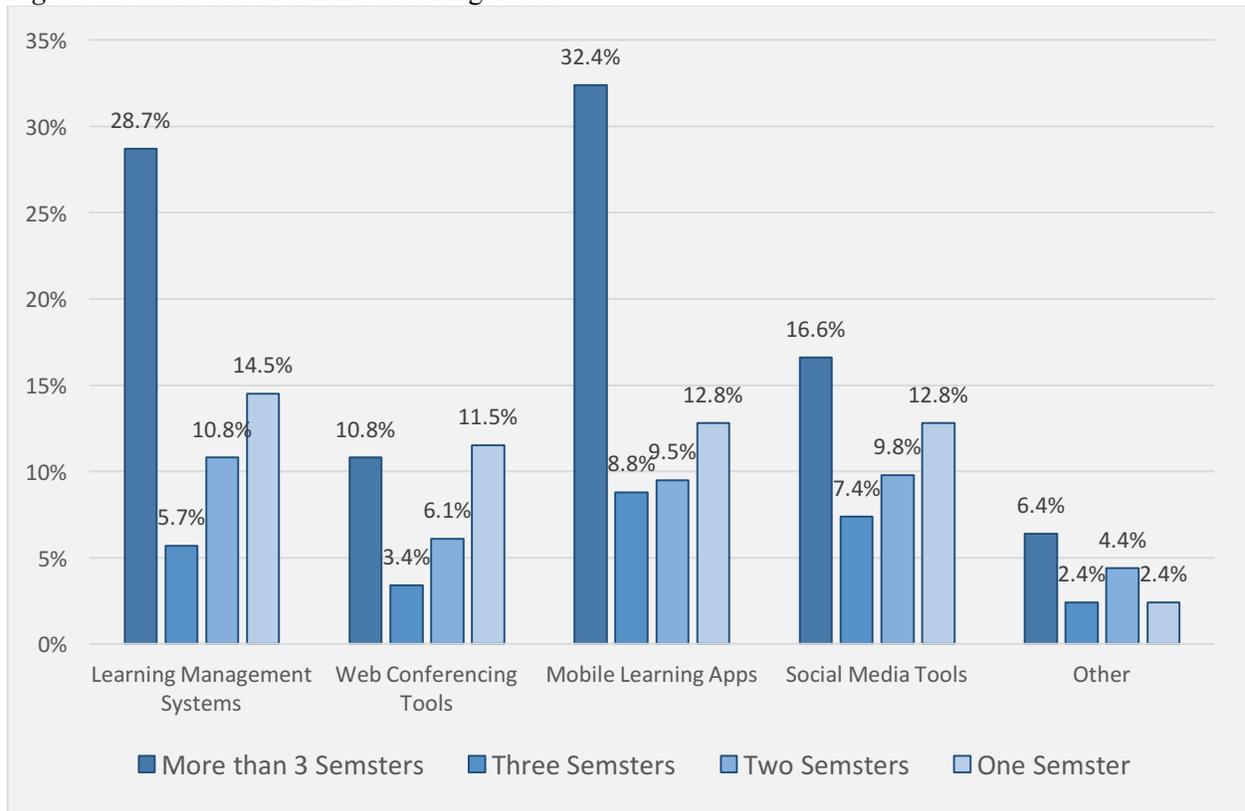
Question #50: Approximately how many technology-related professional development hours have you attended in the last two years? (Note: technology-related professional development hours may include workshops, seminars, programs, institutes, or conferences that you have attended.)

After surveying the technology-related professional development among faculty in the past two years, it was found that the largest group of respondents did not have any training at all (31%), and the second largest group was those who had more than 20 hours of training (19%). Additionally, 16% had fewer than five hours of training, 17% had between six and 10 hours, 11% had between 11 and 15 hours, and only 7% had between 16 and 20 hours or training.

Table 4.10 Technology-Related Professional Development Hours

Total Hours	N	Percentage
0	92	31%
1 – 5	47	16%
6 – 10	49	17%
11 – 15	31	11%
16 - 20	21	7%
More than 20	56	19%

Figure 4.10 Technology-Related Professional Development Hours
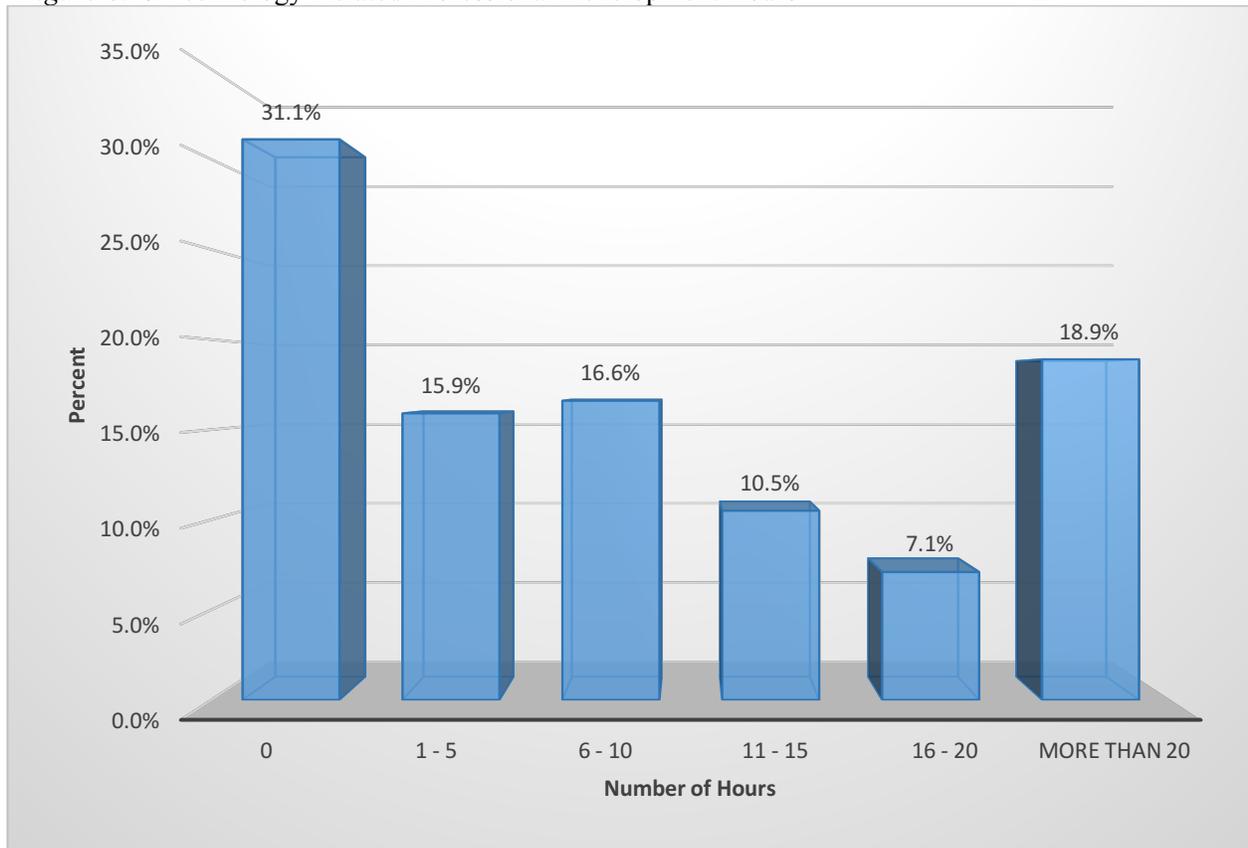
Question 36: Do you have access to personnel (e.g., student assistants, staff) that can help you use any of the online learning systems?

Among the respondents, there was 60% who had access to personnel (e.g., student assistants, staff) who could provide technical support for the online teaching to them. The researcher noticed that 19 respondents (6%) did not answer this question, although it had a short response. It was assumed by the researcher that the respondents who did not answer this question did not know for sure whether or not the university provided technical support for them. It is recommended for future studies to include "I do not know" answer for this question.

Table 4.11 Access to Personal Assistant

Personal Assistant	N	Percentage
Yes	176	60%
No	101	34%
Missing	19	6%

Figure 4.11 Access to Personal Assistant

Personal Assistant

Legend:
- Yes
- No
- Missing

61% · 34% · 6%
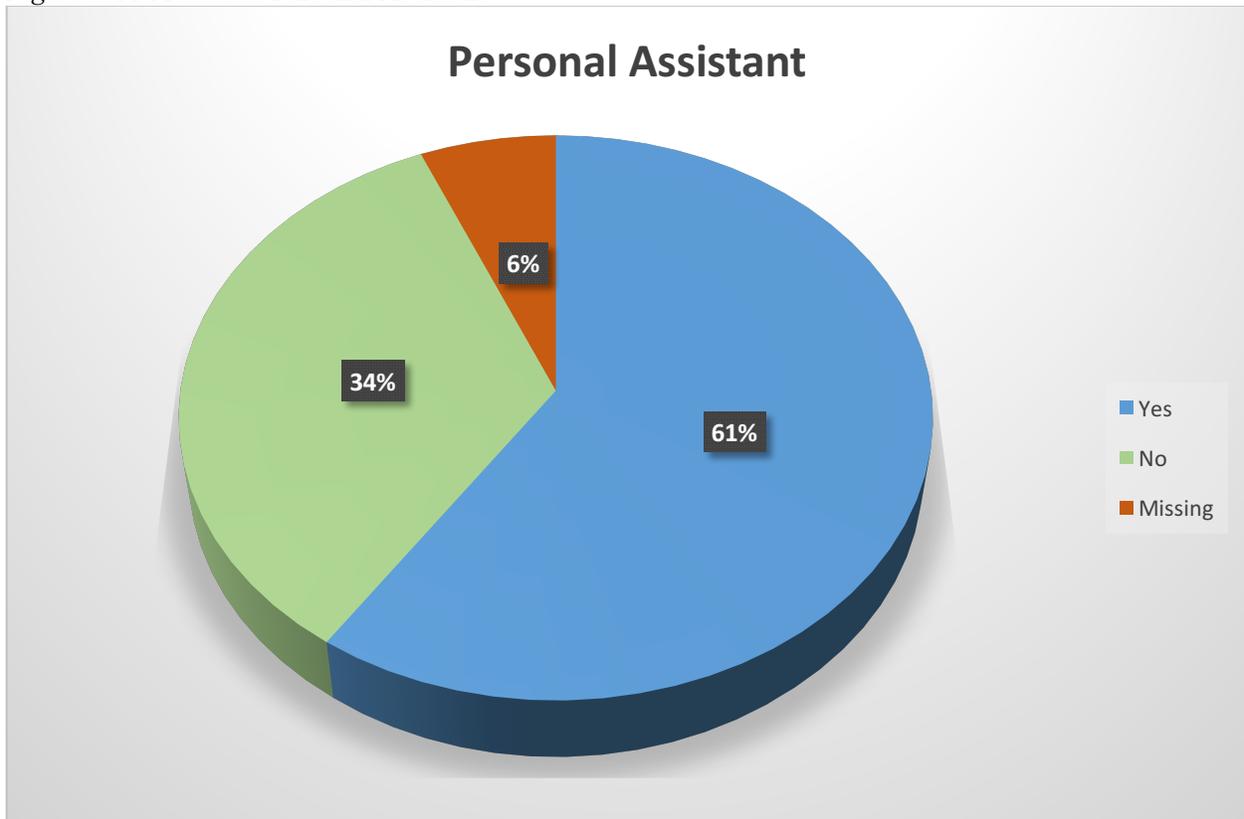
Technology-Related Professional Development

The technology-related professional development was measured through four statements (52 – 55). Each statement was given five options: "strongly agree," "agree," "neutral," "disagree," and "strongly disagree." Table 4.12 and Figure 4.12 summarize the results. The data indicate a strong need for King Saud University to focus more on technology-related professional development for faculty:

- In statement 52, the majority of the respondents (80%) either agreed or strongly agreed that they have an immediate need for more training with curriculum that incorporate technology.

- More respondents in statement 53 (87%) either agreed or strongly agreed that they need technical support to support using technology in instruction. However, in questions #36 (See Table 4.11 and Figure 4.11) 59.5% of the respondent report that they have access to personnel (e.g. student assistants, staff) that could provide technical support for the online teaching to them. The two statements combined might indicted that although the university provide technical support to the faculty but it is not suited to respond to the needs of the faculty. This study recommends a further investigation in why the technical support fell short and what can be done to improve it.

- In statement 54, 81% of the respondents either agreed or strongly agreed that they need instructional technology seminars/workshops.

- In statement 55, only 19% of the respondents either disagreed or strongly disagreed that university's faculty technology professional development plan meets their technology needs.

Table 4.12 Technology-Related Professional Development

Statement	Frequency				
	SA	A	N	SD	S
Q52: I have an immediate need for more training with curriculum that integrates technology.	107	129	26	16	14
Q53: I need technical support to support my technology using in instruction.	131	127	20	5	10
Q54: I need instructional technology seminars/workshops.	117	122	29	9	14
Q55: My university's faculty technology professional development plan meets my technology needs.	48	88	99	29	27

Figure 4.12 Technology-Related Professional Development
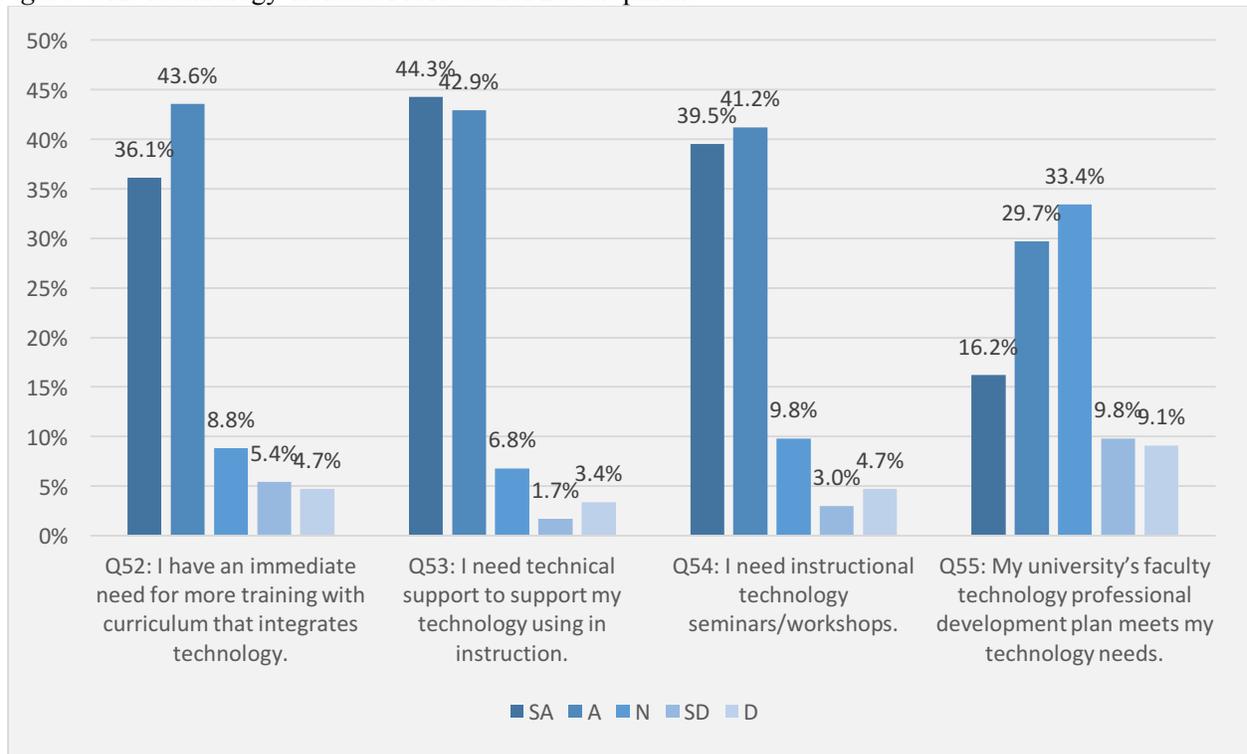
Attitudes toward Teaching with Technology

Statements one to four measured the respondents' attitudes toward teaching with technology. Each statement had five options: "strongly agree," "agree," "neutral," "disagree," and "strongly disagree." All four statements showed positive attitudes towards teaching with technology. The results were as follows:

- The first statement reported that 79% of the respondents are interested (either agreed or strongly agreed) in learning how to integrate technology into online teaching.

- According to the second statement, 75% believed (either agreed or strongly agreed) that online classes would be beneficial to the students.

- In the third statement, 66% were interested (either agreed or strongly agreed) in

  learning how to change their pedagogy to be able to teach online.

- The fourth statement showed that 71% were interested (either agreed or strongly

  agreed) in attending workshops on how to teach online.

Table 4.13 Respondents Attitudes toward Teaching with Technology

Statement	Frequency				
	SA	A	N	SD	D
Q1: I am interested in learning how to integrate technology into online teaching.	127	100	41	19	1
Q3: I believe that online classes would be beneficial to my students.	88	128	47	23	1
Q2: I am interested in learning how to change my pedagogy to be able to teach online.	82	107	62	30	5
Q4: I am interested in attending workshops on how to teach online.	104	100	53	25	4

Figure 4.13 Respondents Attitudes towards Teaching with Technology
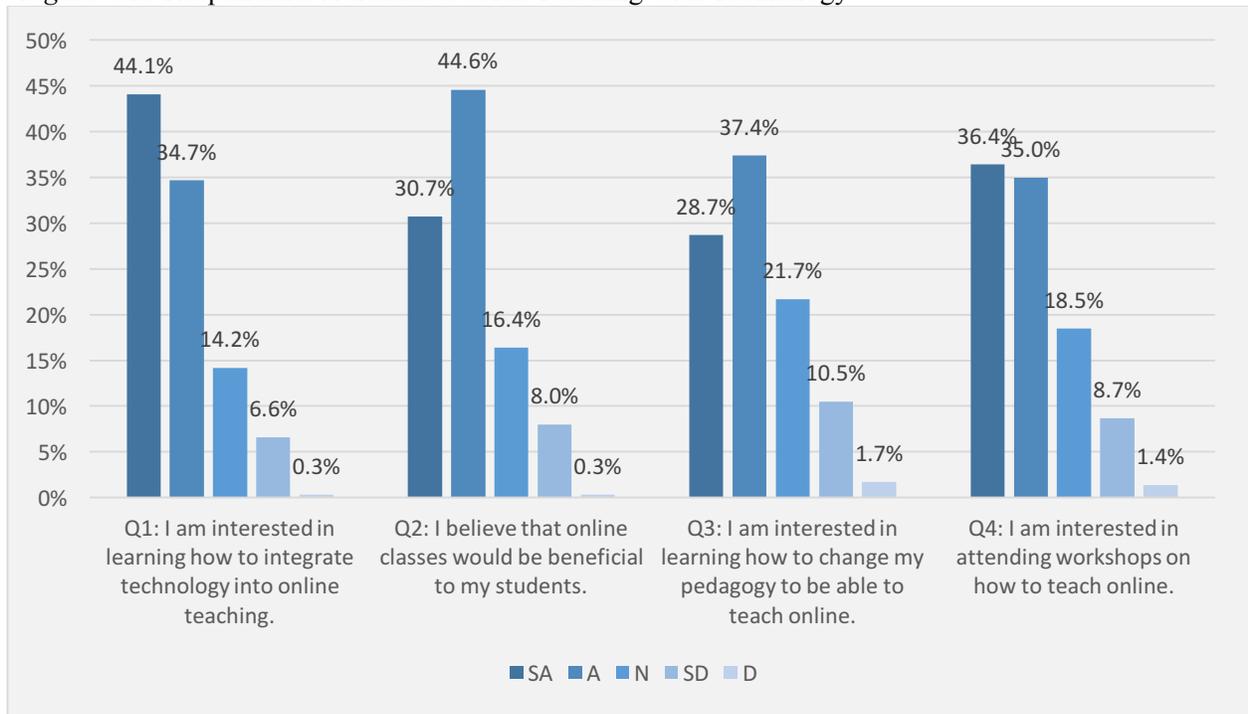
Stages of Concern

The respondents' stages of concern were measured using the Stages of Concern Questionnaire (SoCQ). The permission was obtained from its publisher, the Southwest Educational Development Laboratory (SEDL) (See Appendix C). The SoCQ were included in the survey between the question 7 and 42, and the results were used to answer the first and the second research questions.

The questionnaire consisted of 35 statements, and every five statements were used to measure the intensity of a different stage of concern among the respondents. Scoring the questionnaire required calculating the raw score for each of the seven stages for every respondent. Then, to calculate the stages of concern for the total sample the raw scores for each

stage of concern for all respondents were averaged and then the averages were referred to a given percentile scores table.

Interpretation of Stages of Concern Questionnaire Data

There are many methods to use in interpreting the data from the Stages of Concerns Questionnaire, but analyzing the concerns through looking at the plots of stages of concern percentiles scores on a graph, "provides the most complete clinical interpretation and assessment of both individual and group data" (Gene et al., 2013, p. 37). The profile data provide clues for the change facilitator (i.e., the e-Learning Deanship in King Saud University) to design the appropriate interventions to help the faculty to progress to the next developmental stage. Data might be interpreted on different levels of details; however, the most straightforward form of interpretation is to identify and examine the highest and the second highest stage scores. Because of the developmental nature of the concerns the second highest stage of concern is usually expected to be next to the highest one.

A stage of concern profile table and chart were constructed using respondents answers to questions 7 to 42 as shown in Table 4.14 and Figure 4.14. The highest stage of concern for the respondents was stage zero (Unconcerned), with 96% percentile score. This indicated that respondents had little concern about or involvement with online teaching. The second highest stage score was stage one (Informational), with 90% percentile score. This indicated that the respondents wanted more information about online teaching. The score in this stage did not indicate how much knowledge the respondents had. It indicated that they wanted to know more. At this stage, the respondents were not concerned about the details of online teaching but, rather,

looking for fundamental information. Respondents needed to understand what online teaching

was, its effect, and what its use requirements were.

In the respondents' stages of concern profile, stages 0-2 were the highest, while stages 4-

6 were the lowest. This constituted one of the most common concerns profile for the individuals

who have not begun using the innovation. This profile is known as "nonuser profile," and it is

frequently found in institutions wherein the implementation effort for the innovation is in its

early stages. Since the implementation of online teaching at King Saud University is in the

beginning, the respondents concerns profile followed the shape of the nonuser profile, in which

the highest concerns were self-concerns: Unconcerned, informational, and personal. The change

facilitator (the e-Learning Deanship) must address personal concerns first before the later

concerns of the task and the impact can emerge.

In a nonuser profile it is important to take a look at the score of the stage six

(Refocusing). When stage six concerns tail up, it should be inferred that the respondents have

other ideas that they see as having more value than online teaching (Gene et al., 2013). When

stage six tailing-up is only seven to ten percentile points it is interrupted on terms of the overall

concern of the respondents (Gene et al., 2013). The percentile scores are shown in Table 4.14

and Figure 4.14:

Table 4.14 Percentile Stages Score for the Respondents

	Stages of Concern	**M**	**SD**	**Percentile**
Unrelated	Stage 0: Unconcerned	17.9	7.4	96%
Self	Stage 1: Informational	24.9	7.1	90%
	Stage 2: Personal	25.4	8.1	86%
Task	Stage 3: Management	21.0	7.5	80%
Impact	Stage 4: Consequence	27.2	7.9	64%
	Stage 5: Collaboration	24.8	8.7	68%
	Stage 6: Refocusing	24.5	7.3	83%

Figure 4.14 Stages of Concern Profile for the Respondents
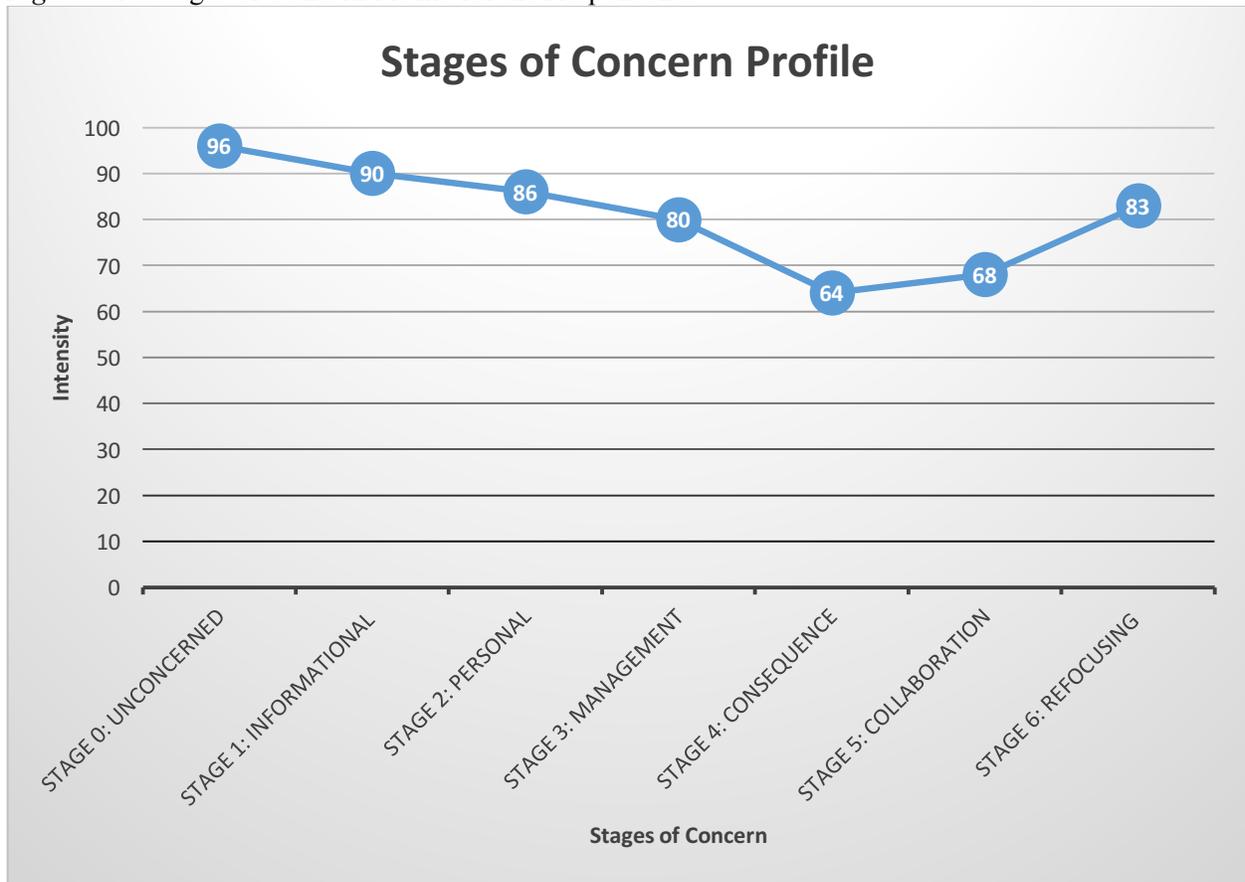
Inferential Statistics

This section presents the results and the statistical analysis for the research questions. To answer the research questions, a series of Multivariate Analysis of Variance (MANOVA) tests was used. If the MANOVA reveals statistically significant differences, then an Analysis of Variance (ANOVA) test was conducted to identify values of significance. Additionally, a series of Tukey's post hoc tests was conducted to determine where differences between groups exist.

Assumptions of linearity, homogeneity of variance-covariance, and normality were met. When Levene's test of equality of error variances among the dependent variables of this study revealed a significance of less than .05; thus, Pillai's Trace statistic was used. Pillai's Trace

statistic is robust, especially when the assumption of homogeneity of variance-covariance matrices and equal cell sizes are violated (Field, 2013). Additionally, when a difference was found in the ANOVA, a series of Tukey's post hoc tests were conducted to determine where differences between groups exist. Tukey's test is considered robust. The researcher can be confident that, if the difference between the means of two groups is greater than Tukey's test, then the two groups can be considered different.

Research Question One

What is the relationship between full-time faculty personal characteristics (age, gender, country of graduation, and years of teaching experience) and their concerns in adopting online teaching?

To assess the relationship between faculty personal characteristics (age, gender, country of graduation, and years of teaching experience) and the stages of concern in adopting online teaching, four one-way MANOVA tests were conducted. The seven independent variables in all four MANOVA tests were variables that represented the stages of concerns: unconcerned, informational, personal, management, consequence, collaboration, and refocusing. The dependent variable in each test was one of the personal characteristics: Age, gender, country of graduation, and years of teaching experience. Table 4.15 provides a summary of the Pillai's Trace test results of the MANOVA on the respondents' personal characteristics and their concerns in adopting online teaching.

Table 4.15 Pillai's Trace Test Results of MANOVA on Stage of Concerns

Independent Variable	Value	*F*	*df*	Error df	Sig.	Eta
Age	.197	1.499	28	812	.047	.049
Gender	.086	3.091	7	231	.004	.086
Country of Gradation	.028	.467	14	468	.950	
Years of Teaching Experience	.128	1.059	28	900	.383	

Test Results of Null Hypothesis

Ho 1.1. There are no statistically significant differences in faculty concerns in adopting

online teaching by faculty age.

Finding

Using Pillai's Trace test, there was a statistically significant difference between

respondents' age and respondents' concerns in adopting online teaching, V = .197, *F* (28, 812) =

1.499, *p* = .047. Thus, the participants' concerns in adopting online teaching were influenced by

their age. Therefore, the null hypothesis *Ho 1.1* was rejected.

To determine the exact differences and to find out at what stages of concern did the

differences occurred, a univariate ANOVA was conducted. Table 4.16 shows the significance

values and its associated stages of concern based on age.

Table 4.16 ANOVA Significance Values for Concerns in Adopting Online Teaching by Age

DV (Stage)	Type III SS	df	Mean Square	F	Sig.	Eta
Stage 0: Unconcerned	567.086	4	141.771	2.542	.041	.047
Stage I: Informational	180.727	4	45.182	.909	.460	.017
Stage 2: Personal	331.965	4	82.991	1.279	.279	.024
Stage 3: Management	460.853	4	115.213	2.068	.086	.039
Stage 4: Consequence	265.708	4	66.427	1.634	.167	.031
Stage 5: Collaboration	645.969	4	161.492	2.251	.065	.042
Stage 6: Refocusing	621.493	4	155.373	3.046	.018	.056

According to the ANOVA results, the significance values were found in stage zero (Unconcerned) ($p = .041$, partial $\eta^2 = .041$) and stage six (Refocusing) ($p = .018$, partial $\eta^2 = .056$).

Ho 1.2. There are no statistically significant differences in faculty concerns in adopting online teaching by faculty gender.

Finding

Using Pillai's Trace test, there was a statistically significant difference between respondents' gender and respondents' concerns in adopting online teaching, $V = .086$, $F (7, 231) = 3.091$, $p = .004$. Thus, the participants' concerns in adopting online teaching were influenced by their gender. <u>Therefore, the null hypothesis *Ho 1.2* was rejected.</u>

To determine the exact differences and to find out at what stages of concern did the differences occurred, a univariate ANOVA was conducted. Table 4.17 displays the significance values and the corresponded stages of concern based on gender.

Table 4.17 ANOVA Significance Values for Concerns in Adopting Online Teaching by Gender

DV (Stage)	Type III SS	df	Mean Square	F	Sig.	Eta
Stage 0: Unconcerned	253.867	1	253.867	4.476	.035	.019
Stage I: Informational	117.539	1	117.539	2.300	.131	.010
Stage 2: Personal	148.688	1	148.688	2.188	.140	.009
Stage 3: Management	618.582	1	618.582	11.238	.001	.045
Stage 4: Consequence	11.815	1	11.815	.272	.603	.001
Stage 5: Collaboration	3.661	1	3.661	.048	.826	.000
Stage 6: Refocusing	96.386	1	96.386	1.727	.190	.007

According to the ANOVA results, the significance values were found in stage zero (Unconcerned) ($p = .035$, partial $\eta^2 = .019$) and stage three (Management) ($p = .001$, partial $\eta^2 = .045$). The gender variable is dichotomous, so a post hoc test could not be conducted. Therefore, to compare the gender's means, a t-test was conducted. Table 4.18 shows the results for male and female participants' means on stages zero and three.

Table 4.18 Gender Means for Stage Zero and Three

	Gender	N	M	SD	Sig.
Stage 0	Male	114	16.728	7.175	.012
	Female	166	18.994	7.507	
Stage 3	Male	115	18.869	7.056	.000
	Female	163	22.515	7.606	

t-test results indicated that female participants ($M= 18.994$, $SD= 7.507$) had a higher mean on stage zero than male participants ($M= 16.728$, $SD= 7.175$). The mean difference, -2.265, was significant $t(278) = .012$. Therefore, female participants had a more intense concern on stage zero (Unconcerned) than male participants. t-test results also indicated that female participants ($M= 22.515$, $SD= 7.606$) had a higher mean on stage three than male participants ($M= 18.869$, $SD= 7.056$). The mean difference, -3.645, was significant $t(276) = .000$. Therefore, female participants had more intense concern on stage three (Management) than male participants.

Taken together, these results suggest that when adopting online teaching at King Saud University female faculty were less informed and less involved than male faculty in the adoption process. At the same time, they were more focused on the process and tasks of using online teaching and the best use of information and resources. Issues related to efficiency, organization, management, and scheduling were more important to them.

Ho 1.3. There are no statistically significant differences in faculty concerns in adopting

   online teaching by faculty country of graduation.

Finding

Using Pillai's Trace test, there was no statistically significant difference between respondents' country of graduation and respondents' concerns in adopting online teaching, $V = .028$, $F(14, 468) = .467$, $p = .950$. Thus, the participants' concerns in adopting online teaching were not influenced by their country of gradation. Therefore, the null hypothesis *Ho 1.3* was accepted.

Ho 1.4. There are no statistically significant differences in faculty concerns in adopting

   online teaching by faculty years of teaching experience.

Finding

One-way MANOVA on the Pillai's Trace test revealed that there was no statistically significant difference between respondents' years of teaching experience and respondents' concerns in adopting online teaching, $V = .128$, $F(28, 900) = 1.059$, $p = .383$. Thus, the participants' concerns in adopting online teaching were not influenced by their years of teaching experience. Therefore, the null hypothesis *Ho 1.4* was accepted.

Research Question Two

What type of relationship exists between faculty contextual characteristics (administrative support of online teaching, department, and academic rank) and their concerns in adopting online teaching?

Test Results of Null Hypothesis

Ho 2.1. There are no statistically significant differences in faculty concerns in adopting

online teaching by faculty administrative support of online teaching.

Finding

Using Pillai's Trace test, there was no statistically significant difference between respondents' perception of administrative support, either on the department level or on the college level, and respondents' concerns in adopting online teaching. Therefore, the null hypothesis *Ho 2.1* was accepted. Table 4.19 provides a summary of the Pillai's Trace test results of MANOVA on administrative support of technology.

Table 4.19 Pillai's Test Results of MANOVA on Stages of Concerns Based on Administrative Support

Independent Variable	Value	*F*	*df*	Error df	Sig.
5.A: Administrators in my department are supportive of faculty members who teach with technology.	.207	1.425	35	1155	.053
5.B: Administrators in my department recognize the additional workload required to teach with technology.	.168	1.147	35	1155	.257
5.C: Administrators in my department communicate with faculty about the value of teaching with technology.	.172	1.164	35	1145	.237
6.A: Administrators in my college are supportive of faculty members who teach with technology.	.146	.994	35	1160	.480
6.B: Administrators in my college recognize the additional workload required to teach with technology.	.180	1.237	35	1160	.163
6.C: Administrators in my college communicate with faculty about the value of teaching with technology.	.136	.920	35	1155	.603

Ho 2.2. There are no statistically significant differences in faculty concerns in adopting

online teaching by faculty department affiliation.

Finding

One-way MANOVA on the Pillai's Trace test showed a statistical significance difference

on the participants' concerns when adopting online teaching based on their department

affiliation, V = .332, *F*(56, 1603) = 1.424, *p* = .004 (see Table 4.20). Thus, the participants'

concerns were influenced by their department affiliation. Therefore, the null hypothesis *Ho 2.2*

was rejected.

Table 4.20 Pillai's Trace Test Results of MANOVA on Stage of Concerns Based on the Department

Independent Variable	Value	*F*	*df*	Error df	Sig.
Department	.332	1.424	56	1603	.023

To determine the exact differences and to find out at what stages of concern did the differences occurred, a univariate ANOVA was conducted. Table 4.21 displays the significance values and the corresponded stages of concern based on the departments.

Table 4.21 ANOVA Significance Values for Concerns in Adopting Online Teaching by Department

DV (Stage)	Type III SS	df	Mean Square	F	Sig.	Eta
Stage 0: Unconcerned	633.939	8	79.242	1.407	.195	
Stage I: Informational	751.283	8	93.910	1.917	.058	
Stage 2: Personal	578.353	8	72.294	1.087	.373	
Stage 3: Management	1230.243	8	153.780	2.853	.005	.091
Stage 4: Consequence	432.003	8	54.000	1.281	.254	
Stage 5: Collaboration	1115.457	8	139.432	1.957	.053	
Stage 6: Refocusing	800.667	8	100.083	1.868	.066	

According to the ANOVA results, the significance values were found in stage three (Management) ($p = .005$, partial $\eta^2 = .091$). Furthermore, post hoc comparison using Tukey's test for stage three (Management) (See Table 4.22) indicated that the respondents who were from the Psychology department ($M = 18.25$, S$D = 7.53$) and Educational Management department ($M = 16.40$, $SD = 6.64$) had the lowest mean score on stage three (Management) and their mean scores differed significantly from respondents who were from Special Education department ($M = 24.33$, $SD = 7.85$) who had the highest mean score (See Table 4.24).

This finding suggests that when actions are being made by the change facilitator (i.e., e-Learning Deanship at King Saud University) to integrate online teaching, it should be expected that the faculty from the Psychology and Educational Management department will required more effort to help them to progress from the self-oriented concerns (Stage 0, 1, 2) to the task-oriented concern (Stage 3).

Table 4.22 Post Hoc Tukey Test for Stage Three on Department

Department		Mean Difference	Std. Error	Sig.
Psychology	Special Education	-6.075	1.738	.016
Educational Management	Special Education	-7.933	2.208	.012

_Ho 2.3._ There are no statistically significant differences in faculty concerns in adopting

online teaching by faculty academic rank.

Finding

One-way MANOVA on the Pillai's Trace test result, V = .159, _F_(21, 696) = 1.857,

_p_=.053, indicated no statistically significant difference on the concern based on the academic

rank. Thus, the participants' concerns were not influenced by their academic rank. Therefore,

the null hypothesis _Ho 2.3_ was accepted.

Table 4.23 Pillai's Trace Test Results of MANOVA on Stage of Concerns Based on Academic Rank

Independent Variable	Value	_F_	_df_	Error df	Sig.
Academic Rank	.159	1.857	21	696	.053

Research Question Three

To what extent do full-time faculty's technographic characteristics (prior instructional

technology use, technology-related professional development, and attitudes toward online

teaching) influence faculty use of technology in teaching?

MANOVA tests were conducted to determine if there were any statistically significant

differences in the respondents' technographic characteristics _(prior instructional technology use,_

technology-related professional development, and attitudes toward online teaching) and the

respondents' use of technology in teaching. When statistically significant differences were found, a series of ANOVA tests were conducted to identify values of significance.

Test Results of Null Hypothesis

Ho 3.1. There are no statistically significant differences in faculty use of technology in teaching by faculty prior instructional technology use.

Finding

Table 4.24 provides a summary of the Pillai's Trace test results of MANOVA test on participants' use of technology in teaching based on their prior instructional technology use. The result of the question 49 (Prior use of social media) showed a statistical significance, V = .76, $F(16, 1128) = 1.904$, $p = .017$. Thus, the participants' use of technology in teaching was influenced by their prior instructional technology use. <u>Therefore, the null hypothesis *Ho* 3.1 was rejected.</u>

Tables 4.25 provides the significance values of participants' use of technology in teaching based on question 49.

Table 4.24 Pillai's Trace Test Results of MANOVA on Faculty Use of Technology in Teaching Based on Prior Instructional Technology Use

Independent Variable	Value	F	df	Error df	Sig.
Q46. Learning Management System (e.g. Blackboard, Jusur, Moodle)	.76	1.379	16	1132	.144
Q47. Web Conferencing Applications (e.g. Elluminate Live, Skype, Adobe Connect)	.035	.625	16	1120	.865
Q48. Mobile Learning (e.g. text messaging, iPhone apps, iPad apps, Android apps)	.037	.664	16	1132	.832
Q49. Social Media Tools (Facebook, Twitter, Diigo)	.105	1.904	16	1128	.017
Q56. Approximately how many technology-related professional development hours have you attended in the last two years?	.072	1.041	20	1140	.409
Q57. Do you have access to personnel (for example: student assistants, staff, etc.) that can help you use any of the online learning systems?	.005	.324	4	268	.862

Table 4.25 ANOVA Significance Values for Faculty Use of Technology in Teaching Based on Q49

DV (Use of Technology in Teaching)	Type III SS	df	Mean Square	F	Sig.	Eta
Q42. Search engines (for example: Google) for research.	5.873	4	1.468	1.976	.098	
Q43. Electronic resources (for example: web pages, e-books, online videos, etc.) to supplement instruction.	12.459	4	3.115	3.546	.008	.048
Q44. Microsoft PowerPoint for presentation in class.	.191	4	.048	.050	.995	
Q45. E-mail for communication with student.	3.891	4	.973	1.691	.152	

According to the ANOVA results shown in Table 4.25, participants' prior experience of using social media (e.g., Facebook, Twitter, Diigo) had a significant effect on their level of supplementing instruction with electronic resources, ($p = .008$, partial $\eta^2 = .048$).

Ho 3.2. There are no statistically significant differences in faculty use of technology in teaching by technology-related professional development needs.

Finding

Table 4.26 provides a summary of the Pillai's Trace test results of MANOVA on faculty use of technology in teaching based on their technology-related professional development needs. The result of the question 55 (My university's faculty technology professional development plan meets my technology needs) showed a statistical significance, $V = .098$, $F(16, 1124) = 1.763$, $p=.031$. Thus, the participants' use of technology in teaching was influenced by their technology-related professional development needs. <u>Therefore, the null hypothesis *Ho* 3.2 was rejected.</u>

Tables 4.27 provides the significance values of participants' use of technology in teaching based on their technology-related professional development needs.

Table 4.26 Pillai's Trace Test Results of MANOVA on Faculty Use of Technology in Teaching Based on Technology-Related Professional Development Needs

Independent Variable	Value	F	df	Error df	Sig.
Q52. I have an immediate need for more training with curriculum that integrates technology.	.058	1.053	16	1128	.416
Q53. I need technical support to support my technology using in instruction.	.054	.973	16	1132	.484
Q54. I need instructional technology seminars/workshops.	.050	.891	16	1124	.580
Q55. My university's faculty technology professional development plan meets my technology needs.	.098	1.763	16	1124	.031

Table 4.27 ANOVA Significance Values for Faculty Use of Technology in Teaching Based on Their Prior Instructional Technology Use Q55

DV (Use of Technology in Teaching)	Type III SS	df	Mean Square	F	Sig.	Eta
Q42. Search engines (for example: Google) for research.	11.968	4	2.992	4.181	.003	.056
Q43. Electronic resources (for example: web pages, e-books, online videos, etc.) to supplement instruction.	8.391	4	2.098	2.504	.043	.034
Q44. Microsoft PowerPoint for presentation in class.	3.766	4	.941	1.090	.362	
Q45. E-mail for communication with student.	9.481	4	2.370	4.762	.001	.063

According to the ANOVA results shown in Table 4.27, participants' need for professional development plan by the university had a significant effect on their use of search engines for academic purposes ($p = .003$, partial $\eta^2 = .056$) and supplementing instruction with electronic resources ($p = .043$, partial $\eta^2 = .034$) and communicating with students via email ($p = .001$, partial $\eta^2 = .063$).

Ho 3.3. There are no statistically significant differences in faculty use of technology in

teaching by faculty attitudes toward online teaching.

Table 4.28 provides a summary of the Pillai's Trace test results of MANOVA on faculty

use of technology in teaching based on their attitudes toward online teaching. The result of the

second statement (I believe that online classes would be beneficial to my students) showed

statistical significance (V = .123, $F(16, 1112) = 2.201$, $p=.004$). Also the third question (I am

interested in learning how to change my pedagogy to be able to teach online) showed a statistical

significance (V = .130, $F(16, 1108) = 2.322$, $p=.002$). Thus, the participants' use of technology

in teaching was influenced by their attitudes toward online teaching. Therefore, the null

hypothesis *Ho* 3.3 was rejected.

Tables 4.29 and Table 4.30 provides the significance values of participants' use of

technology in teaching based on the second and the third question.

Table 4.28 Pillai's Trace Test Results of MANOVA on Faculty Use of Technology in Teaching Based on
Attitudes Toward Online Teaching

Independent Variable	Value	*F*	*df*	Error df	Sig.
Q1. I am interested in learning how to integrate technology into online teaching.	.071	1.264	16	1116	.213
Q2. I believe that online classes would be beneficial to my students.	.123	2.201	16	1112	.004
Q3. I am interested in learning how to change my pedagogy to be able to teach online.	.130	2.322	16	1108	.002
Q4. I am interested in attending workshops on how to teach online.	.086	1.515	16	1108	.087

Table 4.29 ANOVA Significance Values for Faculty Use of Technology in Teaching Based on Q2

DV (Use of Technology in Teaching)	Type III SS	df	Mean Square	F	Sig.	Eta
Q42. Search engines (for example: Google) for research.	14.580	4	3.645	5.123	.001	.069
Q43. Electronic resources (for example: web pages, e-books, online videos, etc.) to supplement instruction.	8.301	4	2.075	2.360	.054	
Q44. Microsoft PowerPoint for presentation in class.	2.334	4	.584	.621	.648	
Q45. E-mail for communication with student.	.971	4	.243	.409	.802	

According to the ANOVA results shown in Table 4.29, participants' belief that online classes would be beneficial to their students had a significant effect on their use of search engines for academic purposes ($p = .001$, partial $\eta^2 = .069$).

Table 4.30 ANOVA Significance Values for Faculty Use of Technology in Teaching Based on Q3

DV (Use of Technology in Teaching)	Type III SS	df	Mean Square	F	Sig.	Eta
Q42. Search engines (for example: Google) for research.	3.480	4	.870	1.155	.331	
Q43. Electronic resources (for example: web pages, e-books, online videos, etc.) to supplement instruction.	12.241	4	3.560	4.231	.002	.058
Q44. Microsoft PowerPoint for presentation in class.	9.427	4	2.357	2.696	.031	.037
Q45. E-mail for communication with student.	1.953	4	.488	.840	.501	

According to the ANOVA results shown in Table 4.30, participants' interest in learning how to change their pedagogy to be able to teach online had a significant effect on using electronic resources (e.g., web pages, e-books) to supplement instruction ($p = .002$, partial $\eta^2 = .058$) and to use Microsoft PowerPoint for presentation in class ($p = .031$, partial $\eta^2 = .031$).

The following table presents a summary of the research questions, null hypothesis, and whether or not each one was accepted or rejected.

Table 4.31 Null Hypotheses Tests Summary

RQ	MANOVA Test Result	Action
RQ 1	**Personal Characteristics**	
Ho 1.1	There are no statistically significant differences between faculty age and faculty concerns in adopting online teaching.	Rejected (*p* = .047)
Ho 1.2	There are no statistically significant differences between faculty gender and faculty concerns in adopting online teaching.	Rejected (*p* = .004)
Ho 1.3	There are no statistically significant differences between faculty country of graduation and faculty concerns in adopting online teaching.	Accepted
RQ 2	**Contextual Characteristics**	
Ho 2.1	There are no statistically significant differences between faculty administrative support of online teaching and faculty concerns in adopting online teaching.	Accepted
H 2.2	There are no statistically significant differences between faculty department affiliation and faculty concerns in adopting online teaching.	Rejected (*p* = .004)
H 2.3	There are no statistically significant differences between faculty academic rank and faculty concerns in adopting online teaching.	Accepted
RQ 3	**Technographic Characteristics**	
Ho 3.1	There are no statistically significant differences between faculty prior instructional technology use and faculty use of technology in teaching.	Rejected (*p* = .017)
Ho 3.2	There are no statistically significant differences between faculty technology-related professional development needs and faculty use of technology in teaching.	Rejected (*p*=.031)
H 3.3	There are no statistically significant differences between faculty attitudes toward online teaching and faculty use of technology in teaching.	Rejected (*p*=.004 & *p*=.002)

Chapter Summary

The data in this study were obtained from 296 faculty members of the College Education at King Saud University. The response rate was 66%. The data were analyzed using descriptive and inferential analysis. Descriptive data analysis revealed that that 43% of the participants are males while 56% are females. Of the respondents, 12% were in the age range of 20-30, 30% were in the age range of 31- 40, 27% were in the age of 41-50, 13% were in the age range of 51-60, and 7% were in the age of 61-70. Furthermore, 60% of the participants obtained their last academic degree from institutions in Arabic countries, and 36% obtained their last degree from institutions in non-Arabic countries. The largest group is comprised of faculty who had taught from one to 10 years (54%). The second largest group contained the faculty who had taught from 11 to 20 years (26%). Then those who had taught from 21 to 30 years, with 12%, and the smallest group was the faculty who had taught from 31 to 40 years (4%). The highest percentage of respondents were affiliated with the Curriculum and Instruction department (24%) followed by Special Education (15%), while the lowest percentages were affiliated with the departments of Educational Management (6%) and Quranic Studies (4%). Among the 296 respondents, 13% were Professors, 21% Associate Professors, 29% Assistant Professors, and 37% were Lecturers and Teaching Assistants.

In the respondents' stage of concern profile, stages 0-2 were the highest, while stages 4-6 were the lowest. The highest stage of concern for the respondents was stage zero (Unconcerned), with 96% percentile score. This indicated that respondents had little concern about or involvement with online teaching. The second highest stage score was stage one (Informational), with 90% percentile score. This indicated that the respondents want more information about online teaching.

Research question one results: A one-way MANOVA test results demonstrate that there was a statistically significant difference between respondents' age and respondents' concerns in adopting online teaching, $p = .047$. The significance differences were found in stage zero (Unconcerned), $p = .041$, and stage six (Refocusing), $p = .018$. Therefore, the null hypothesis *Ho 1.1* was rejected.

Another one-way MANOVA test results confirmed that there was a statistically significant difference between respondents' gender and respondents' concerns in adopting online teaching, $p = .004$. Therefore, the null hypothesis *Ho 1.2* was rejected. The significance differences were found in stage zero (Unconcerned), $p = .035$, and stage three (Management), $p = .001$.

Additional one-way MANOVA test showed that there was no statistically significant difference between respondents' country of graduation and respondents' concerns in adopting online teaching. Therefore, the null hypothesis *Ho 1.3* was accepted.

Research question two results: A one-way MANOVA confirmed that there was no statistically significant difference between respondents' perception of administrative support and respondents' concerns in adopting online teaching. Therefore, the null hypothesis *Ho 2.1* was accepted. Another one-way MANOVA showed a statistical significance difference on the participants' concerns when adopting online teaching based on their department affiliation, $p= .004$. Therefore, the null hypothesis *Ho 2.2* was rejected. The differences were found in stage three (Management) ($p = .005$). Additional one-way MANOVA indicated no statistically significant difference on the concern based on the academic rank, $p=.053$. Therefore, the null hypothesis *Ho 2.3* was accepted.

Research question three results: The result of the question 49 (Prior use of social media) showed a statistical significance, $p = .017$, of prior technology use on participants' use of technology in teaching. Therefore, the null hypothesis *Ho 3.1* was rejected. Additionally, the result of the question 55 (my university's faculty technology professional development plan meets my technology needs) showed a statistical significance, $p=.031$, of technology-related professional development needs on participants' use of technology. Therefore, the null hypothesis *Ho 3.2* was rejected. Moreover, the result of the second question (I believe that online classes would be beneficial to my students) and third question (I am interested in learning how to change my pedagogy to be able to teach online) showed a statistical significance, $p=.004$ and $p=.002$, of participants' attitudes toward online teaching on their use of technology in teaching. Therefore, the null hypothesis *Ho* 3.3 was rejected.

Chapter 5 - Summary, Conclusions and Discussion, and Recommendations for Practice and Future Studies

Chapter Overview

This study investigated the concerns and professional development needs regarding the adoption of online teaching as expressed by faculty in the College of Education at King Saud University. The findings will help in determining the support and resources needed to develop appropriate training programs and to implement online teaching successfully. To develop appropriate training programs for faculty in adopting online teaching it is vital to diagnose their concerns and professional development needs.

There were three research questions:

1. What is the relationship between full-time faculty personal characteristics (age, gender, country of graduation, and years of teaching experience) and their concerns in adopting online teaching?

2. What type of relationship exists between faculty contextual characteristics (administrative support of online teaching, department, and academic rank) and their concerns in adopting online teaching?

3. To what extent do full-time faculty's technographic characteristics (prior instructional technology use, technology-related professional development, and attitudes toward online teaching) influence faculty use of technology in teaching?

This chapter provides a summary of the study, a discussion of each research question, and overall conclusions drawn from the study. Additionally, recommendations for King Saud University and for the future studies are presented.

Summary

Personal Characteristics

The personal characteristics of the respondents in this study were: age, country of gradation, and years of teaching experience.

Age Range

Of the respondents, 12% were in the age range of 20-30, 30% were in the age range of 31- 40, 27% were in the age range of 41-50, 13% were in the age range of 51-60, 7% were in the age of 61-70, and 12% did not specify their age.

Gender

Males comprised 43% of the respondents while 56% were females. Only 1% of the respondents did not reveal their gender.

Country of Graduation

Most respondents (60%) obtained their last academic degree from institutions in Arabic countries, while 36% obtained their last degree from institutions in Non-Arabic countries, and 4% of the participants did not report from where they obtained their last degree.

Years of Teaching Experience

The largest group is comprised of faculty who taught from one to 10 years, with 54%. The second largest group contained the faculty who taught from 11 to 20 years, with 26%. Then those who taught from 21 to 30 years, with 12%, and the smallest group was the faculty who taught from 31 to 40 years, with 4%.

Contextual Characteristics

The contextual characteristics of the respondents in this study were: Administrative support of technology, department association, and academic rank.

Administrative Support of Technology

Almost half of the faculty either agreed or strongly agreed that the college and the department support their use of technology (47% and 50% respectively), recognize the additional workload to teach with technology (50% and 48%), and communicate with them about the value of technology (53% and 56%). On the other hand, almost less than 20% of the respondents either disagreed or strongly disagreed that the college and the department support their use of technology (17% and 19%), recognized the additional workload to teach with technology (18% and 19%) and communicated with them about the value of technology (21% and 16%).

Department

The highest percentage of respondents was affiliated with the Curriculum and Instruction department (24%) followed by Special Education (15%), while the lowest percentages were affiliated with the departments of Educational Management (6%) and Quranic Studies (4%). The

remainder of the respondents were affiliated with Islamic Studies (14%), Psychology (13%), Educational Policy Study (6%), Educational Technology (6%) and Art Education (6%).

Academic Rank

Of the respondents, 13% were Professors, 21% Associate Professors, 29% Assistant Professors, and 37% were Lecturer and Teaching Assistants. only two respondents did not report their academic rank.

Technographic Characteristics

The technographic characteristics of the respondents in this study were: Prior use of technology, technology-related professional development, and attitudes toward teaching with technology.

Prior Instructional Technology Use

The most common online teaching tool among respondents was mobile learning apps, with 64% of the respondents had used it for at least one semester. The second most common tool was the learning management system, with 60% had used it for at least one semester. Using social media tools in teaching was also popular, with 47%. The least common online teaching tool was the web conferencing applications, with 32%.

Technology-Related Professional Development

The majority of the respondents (80%) either agreed or strongly agreed that they have an immediate need for more training with curricula that incorporate technology. Additionally, many respondents (87%) either agreed or strongly agreed that they need technical support to support

using technology in instruction. Moreover, 81% of the respondents either agreed or strongly agreed that they need instructional technology seminars and workshops. Only 19% of the respondents either disagreed or strongly disagreed that university's faculty technology professional development plan meets their technology needs.

Attitudes toward Teaching with Technology

Of the respondents, 79% are interested in learning how to integrate technology into online teaching, 75% believed that online classes would be beneficial to their students, 66% were interested in learning how to change their pedagogy to be able to teach online, and 71% were interested in attending workshops on how to teach online

Stages of Concern

The highest stage of concern for the respondents was stage zero (Unconcerned), with 96% percentile score. This indicated that respondents had little concern about or involvement with online teaching. The second highest stage score was stage one (Informational), with 90% percentile score. This indicated that the respondents wanted more information about online teaching. In the respondents' stage of concern profile, stages 0-2 were the highest, while stages 4-6 were the lowest. This constituted one of the most common concerns profile for the individuals who had not begun using the innovation. This profile is known as a "nonuser profile." It is frequently found in institutions where the implementation effort for the innovation is in its early stages.

Findings

Following are the finding for each of the three research questions:

Research Question One

What is the relationship between full-time faculty personal characteristics (age, gender, country of graduation, and years of teaching experience) and their concerns in adopting online teaching?

A one-way MANOVA test result revealed a statistically significant difference between respondents' age and respondents' concerns in adopting online teaching ($p = .047$). The statistically significant differences were found in stage zero (Unconcerned) ($p = .041$) and stage six (Refocusing) ($p = .018$). The one-way MANOVA test results also showed a statistically significant difference between respondents' gender and respondents' concerns in adopting online teaching ($p = .004$). The statistical significance differences were found in stage zero (Unconcerned) ($p = .035$) and stage three (Management) ($p = .001$). t-test results indicated that female participants had a higher mean on stage zero than male participants. The mean difference, -2.265, was significant $t(278) = .012$. Therefore, female participants had a more intense concern on stage zero (Unconcerned) than male participants. t-test results also indicated that female participants had a higher mean on stage three than male participants. The mean difference, -3.645, was significant $t(276) = .000$. Therefore, female participants had more intense concerns about adopting online teaching on stage three (Personal) than male participants.

The one-way MANOVA test results indicated that the respondents' concerns in adopting online teaching were not influenced by their country of graduation or years of teaching experience.

Research Question Two

What type of relationship exists between faculty contextual characteristics (administrative support of online teaching, department, and academic rank) and their concerns in adopting online teaching?

A one-way MANOVA test results showed there was no statistically significant difference between respondents' perception of administrative support, either on the department level or on the college level, and respondents' concerns in adopting online teaching.

A one-way MANOVA test results also indicated a statistically significant difference on the participants' concerns when adopting online teaching based on their department affiliation (p = .004). The significance value was found in stage three (Management) (p = .005). A post hoc comparison using Tuckey test for stage three (Management) indicated that the respondents who were from the Psychology department and Educational Management department had the lowest mean score on stage three (Management) and their mean scores differed significantly from respondents who were from Special Education department who had the highest mean score.

Based on additional one-way MANOVA test no statistical significant difference was found on the concern based on the academic rank (p=.053).

Research Question Three

To what extent do full-time faculty's technographic characteristics (prior instructional technology use, technology-related professional development, and attitudes toward online teaching) influence faculty use of technology in teaching?

A MANOVA test on participants' use of technology in teaching based on their prior instructional technology use showed a statistical significance (p = .017). A follow-up ANOVA shown that participants' prior experience of using social media (e.g., Facebook, Twitter, Diigo) had a significant effect on their level of supplementing instruction with electronic resources, (p = .008).

A MANOVA test on faculty use of technology in teaching based on their technology-related professional development needs showed a statistical significance (p=.031). A follow-up ANOVA indicated participants' need for professional development plan by the university had a significant effect on their use of search engines for academic purposes (p = .003) and supplementing instruction with electronic resources (p = .043) and communicating with students via email (p = .001).

A MANOVA test on faculty use of technology in teaching based on their attitudes toward online teaching showed a statistical significance (p=.004) and (p=.002). A follow-up ANOVA indicated that the participants' belief that online classes would be beneficial to their students had a significant effect on their use of search engines for academic purposes (p = .001). Moreover, the participants' interest in learning how to change their pedagogy to be able to teach online had a significant effect on using electronic resources (e.g., web pages, e-books) to supplement instruction (p = .002) and to use Microsoft PowerPoint for presentation in class (p = .031).

Conclusions and Discussion

The following conclusions are based on the results of the descriptive statistics and quantitative analysis. They are organized according to the research questions and provide the implications and significance of the obtained results.

Research Question One

What is the relationship between full-time faculty personal characteristics (age, gender, country of graduation, and years of teaching experience) and their concerns in adopting online teaching?

There was a statistically significant difference in respondents' concerns in adopting online teaching based on their age ($p = .047$). The statistically significant differences were found in stage zero (Unconcerned) ($p = .041$) and stage six (Refocusing) ($p = .018$). The statistical analyses did not provide any conclusive evidence about how the concerns of respondents increase or decrease with their age. The largest group is comprised of faculty who were in the age range of 31-40 (30%). They are relatively young and this might be interpreted as having more interest in using technology. Adams (2002) studied faculty concerns related to the integration of technology into teaching (n=589, 39% response rate) and found that the younger faculty expressed higher concerns than older faculty. Likewise, Petherbridge (2007) studied the concerns in the adoption of learning management systems in higher education (n=1196, 29.5% response rate) and found age to be predictive of faculty concerns in using learning management systems into teaching. The older faculty showed less interest in knowing about or using the learning management systems.

Age variable has mixed results as a predictor across various studies. The original authors of CBAM did not consider age a predictive variable for innovation adoption (George, Hall, & Stiegelbauer, 2016). Their conclusion was echoed by previous studies conducted in Saudi Arabia (Al-Sarrani, 2010; Kamal, 2013) that found no significant difference between faculty age and their concerns when adopting the innovation.

There was a statistically significant difference in respondents' concerns in adopting online teaching based on gender ($p = .004$). The statistical significance differences were found in stage zero (Unconcerned) ($p = .035$) and stage three (Management) ($p = .001$). Female respondents expressed a higher degree of concern than male respondents on both stages. The results suggest that when adopting online teaching at King Saud University female faculty were less informed and less involved than male faculty in the online teaching adoption process. At the same time, they were more focused on the process and tasks of using online teaching and the best use of information and resources. Issues related to efficiency, organizing, managing, and scheduling were more important to them, which could have been for various reasons.

Previous studies conducted in the USA did not report any statistically significant differences on participants' concern based on gender (Hwu, 2011; Petherbridge, 2007). On the other hand, previous studies conducted in Arabic countries reported similar findings to this study (Al-Sarrani, 2010; Alshammari, 2000; Kamal, 2013). In Saudi Arabia, Al-Sarrani (2010) found a statistically significant difference in the participants' concerns by gender in stages one (Informational) and five (Collaboration). Kamal (2013) found the same result in stage one (Informational), stage two (Personal), and stage six (Refocusing). In Kuwait, Alshammari (2000) found it in stage three (Management). The previous studies in Arabic countries (Al-Sarrani, 2010; Alshammari, 2000; Kamal, 2013) reported different stages of concern in which

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participants' concerns differed significantly based on gender. The fact that gender was the only factor to be consistently found to be significant in all studies in Arabic countries gives pause for reflection.

The disparity in gender effect between the studies in the United Sates and Arabic countries is a strong indicator that the effect is mainly due to cultural factors. However, there are many possible explanations for the significant effect of gender on concerns when adopting innovation in higher education settings in Arabic countries. The significant difference in concerns may be due to the persisting stereotype and gender bias about women's capabilities in using technologies. These biases block women's progress and aspiration and lower their performance. Consequently, this bias likely increased women faculty's concerns in adopting online teaching. It is also possible that female faculty were more concerned because most of the higher-level administrators are males. The underrepresentation of females makes it difficult for their voices to be heard by the administrators in the decision-making process. It is also possible that they were more concerned because of the inequity in technology facilities in the females' campus. Normally, the female campuses get less lab space, less technical support, and fewer grants for equipment (Al-Sarrani, 2010). To address this concern, every department needs to conduct departmental reviews to assess the climate for female faculty, including access to technology and administrative support for productivity reasons. For instance, female faculty should be encouraged to share their views on the university's online teaching strategy.

There are also global concerns that affect Saudi Arabia's economic response to gender equity. Last year, oil accounted for over 70% of total government revenue. Due to two years of low oil prices, there was a debt of 98 billion dollars in 2015. This situation has made diversifying the economy and increasing productivity top priorities for the government. The

National Transformation Program is the country's vision to achieve an economic change. The

plan is to triple the non-oil revenue in 2020 through privatizing elements of many government

companies. This includes more than 500 initiatives across different sectors (tourism, banking,

construction, etc.) (Stancati & Al-Omran, 2016).

As a result, the government of Saudi Arabia is encouraging more of its citizens to look

for jobs in the private sector. Currently, around 70% of Saudis are employed in the public sector.

The government aims to create some 450,000 private-sector jobs by 2020, and they are planning

to the private sector to take a greater role in areas such as health care, education, and tourism

(Spindle & Al-Omran, 2016). The new directive by the Deputy Minister for Saudi Arabia called

for more Saudi participation in the private sector work force (Spindle & Al-Omran, 2016).   In

the development of this new economy, women's participation is now being encouraged (Spindle

& Al-Omran, 2016).   Addressing these campus gender equity differences would create a more

diversified and productive work force, which Saudi Arabia will need in the coming years.

Finally, there were no statistically significant differences between respondents' concerns

in adopting online teaching and their country of graduation or years of teaching experience. This

finding is consistent with the previous studies in Saudi Arabia (Al-Sarrani, 2010; Kamal, 2013).

Research Question Two

What type of relationship exists between faculty contextual characteristics

(administrative support of online teaching, department, and academic rank) and their concerns

in adopting online teaching?

There was no statistically significant difference between respondents' perception of

administrative support, either at the department level or at the college level, and respondents'

concerns in adopting online teaching. The participants indicated a highly positive perception of administrative support of using technology. Almost half of the faculty either agreed or strongly agreed that the college and the department supported their use of technology (47% and 50% respectively), recognized the additional workload to teach with technology (50% and 48%), and communicated with them about the value of technology (53% and 56%).

Most studies agree that administrative support of technology is critical for faculty when adopting technology (Hall & Hord, 2014; Hwu, 2011; Kamal, 2013; Petherbridge, 2007). According to Dusick (2014), "although the teacher may have control over some environmental factors (classroom setup, for example), a supportive administrative staff and support staff, are critical to encouraging the adoption of innovation" (p. 131). Oomen-Early and Murphy (2009) suggested that faculty needed to feel supported by university administration. Faculty satisfaction was linked to an institution's ability to remove physical and technical barriers (Hwu, 2010).

There was a statistically significant difference on the participants' concerns when adopting online teaching based on their department affiliation ($p = .004$). The significance value was found in stage three (Management) ($p = .005$). It was also found that the respondents who were from Psychology and Educational Management department had the lowest degree of concern in this stage. Similarly, Al-Sarrani (2010) found a statistically significant relationship between department affiliation and use of technology in teaching. Likewise, Petherbridge (2007) found that different academic disciplines had different concerns at different times during the technology adoption process.

Although more research is needed to find out why the Educational Management and Psychology department had lower management concerns, but it is currently important for the change facilitator (i.e., the Deanship of e-Learning) to realize that the two departments need

more effort in the online teaching adoption process. The mean differences between the Psychology and the Special Education department (-6.075) was significant ($p = .016$). Also the mean difference between the Educational Management and the Special Education department (-7.933) was significant ($p=.012$). Having a higher or lower concern in any stage is not inherently good or bad. It only suggests the specific type of interaction and intervention the individual, or the group, needs at the moment. The interaction with individuals who have high management concern should be different than those who have low management concern.

There are two interpretations to explain having less management concern. First, the participants probably were more concerned with other stage of concern. To confirm this, the change facilitator needs to construct a stages of concern profile for each department and examine it separately. Second, the participants from the two departments might had less focus on the process and tasks of using online teaching. For reasons that need to be investigated through qualitative studies the participants probably had less focus on issues that are related to organizing and managing online teaching. In this case, it is important that the change facilitator clarifies the steps of adopting online teaching, and demonstrate how to use the technology that are involved. Additionally, what usually cause the management concerns are the small and specific "how-to" questions. Providing clear and comprehensive answers to these questions is an effective strategy. Another effective strategy is to help the faculty members arranging the teaching activities by encouraging them to set a realistic timeline.

Research Question Three

To what extent do full-time faculty's technographic characteristics (prior instructional technology use, technology-related professional development, and attitudes toward online teaching) influence faculty use of technology in teaching?

There was a statistical significance on participants' use of technology in teaching based on their prior instructional technology use ($p = .017$). The most common online teaching tool among respondents was mobile learning apps; 64% of the respondents had used it for at least one semester. The second most common tool was the learning management system; 60% had used it for at least one semester. The third most common tool social media tools in teaching, with 47% had used it for at least one semester.

Participants' prior experience in using social media (e.g., Facebook, Twitter, Diigo) had a significant effect on their level of supplementing instruction with electronic resources (e-books, websites, etc.) ($p = .008$). The same result was arrived at by Kamal (2013), who found that the more the faculty used the Learning Management System at King Abdulaziz University in Saudi Arabia the more likely they were likely to provide students with electronic resources.

There was a statistically significant difference in participants' use of technology in teaching based on their perception of technology-related professional development needs ($p=.031$). The results indicated that the faculty perception of a need for a professional development plan by the university had a significant effect on their use of search engines for academic purposes ($p = .003$), supplementing instruction with electronic resources ($p = .043$), and communicating with students via email ($p = .001$). Previous studies reported findings that concur with this statement (Al-Sarrani, 2010; Hwu, 2011; Kamal, 2013). Since this finding was

similar for the U.S.A. (Hwu, 2011) and Saudi Arabia (Al-Sarrani, 2010; Kamal, 2013), there is a consistency beyond culture.

George, Hall, and Stiegelbauer (2006) argued that professional development was the most important of the demographic variables in determining concerns when adopting an innovation. It was found that the largest group of respondents did not have any training at all (31%), and the second largest group was those who had more than 20 hours of training (19%). Additionally, 16% had fewer than five hours of training. The majority of the respondents (80%) either agreed or strongly agreed that they have an immediate need for more training with curricula that incorporate technology. Additionally, many respondents (87%) either agreed or strongly agreed that they need technical support to support using technology in instruction. Moreover, 81% of the respondents either agreed or strongly agreed that they need instructional technology seminars and workshops. Only 19% of the respondents either disagreed or strongly disagreed that university's faculty technology professional development plan meets their technology needs.

There was a statistical significance in participants' use of technology in teaching based on their attitudes toward online teaching ($p = .004$) and ($p = .002$). Of the respondents, 79% are interested in learning how to integrate technology into online teaching, 75% believed that online classes would be beneficial to their students, 66% were interested in learning how to change their pedagogy to be able to teach online, and 71% were interested in attending workshops on how to teach online.

It was found that the participants' belief that online classes would be beneficial to their students had a significant effect on their use of search engines for academic purposes ($p = .001$). Moreover, the participants' interest in learning how to change their pedagogy to be able to teach

online had a significant effect on using electronic resources to supplement instruction ($p = .002$), and to use Microsoft PowerPoint for presentation in class ($p = .031$). A similar result was reported by Kamal (2013), who found that the participants' belief that online classes would be beneficial to their students had a significant effect on using electronic resources to supplement instruction and on using learning management systems. Al-Sarrani (2010) also found that in Saudi Arabia participant use of technology in teaching was influenced by attitudes towards technology integration in the Science curriculum. This belief could stem from more use of technology, positive readings or experiences with online courses, or other factors. This belief seems to be powerful and should be studied further for causal factors.

Recommendations for King Saud University

The current study was conducted in order to understand the concerns and professional development needs of faculty members in the College of Education at King Saud University when adopting online teaching. The following are specific recommendations based on the study's findings that may help King Saud University to more efficiently and productively adopt online teaching.

1 –*Provide training programs on online teaching based on faculty stages of concern.* According to the gathered data, the respondents' stage of concern 0-2 was highest among the participants. This means that faculty understood very little about online teaching. Since the type of support, training, and consultation the faculty member needs depend on her/his current stage of concern, these entry-level concerns must not be ignored. Professional development for a person who has a high personal concern should be quite different than for the one who has a high consequence concern. Suggested interventions include:

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- For faculty members who are at stage zero (Unconcerned), it is suggested to involve them in discussions, scenarios, and decisions about online teaching, share enough information to arouse interest, but not enough to overwhelm them. They must be encouraged to share their concerns with colleagues, particularly those who know about online teaching.

- For those at stage one (Informational), it is suggested to provide clear and accurate information about online teaching, in addition to using different methods to deliver information about online teaching to them (e-mail, brochures, short media presentations, and workshops).

- For faculty at stage two (Personal), it would be beneficial to acknowledge and legitimize the existence of personal concerns. The faculty member will be able to realize that others have similar concerns. It is important to have personal conversations with them in order to provide encouragement and reinforce personal adequacy.

Sharing among peers is not common in Saudi academia, but given that the Dean of Distance and E-Learning has recommended this study, there should be a great degree of faculty discourse and sharing. A good strategy to reduce personal concern is to show how online teaching can be implemented gradually, in small amounts at a time, rather than in a long workshop with many concepts.

2 – *Target the most interested group for early adoption.* The stages of concern analysis in this study indicated that the faculty in the College of Education had doubts and resistance to

online teaching (High stages of concern 0 – 2 and stage 6 tail up). To address faculty resistance, it is suggested for the College of Education to adopt a plan similar to this:

- Diagnose the resistance: Resistance may result from work overload, lack of information, fear of change, inadequate technical support, or a host of other reasons.

- Target the most interested group first: Dealing with and overcoming faculty resistance is not easy. Therefore, the Dean should first target the most interested group among the faculty as early adopters.

- Ask early adopter to serve as mentors: Once the early adopters have had workshops and constructed classes, then they can serve as mentors to other faculty and speak to them about concerns that administrators would not. It would be easier for the mentors to approach other faculty who may have some resistance toward online teaching.

3 – Provide local technical support for faculty who teach online. Although King Saud University provides centralized technical support through the university website, 87% of respondents either agreed or strongly agreed that they needed local technical support in using technology for instruction. Moreover, 34% reported that they did not have access to technical support. This indicates that, although the university provided technical support to faculty, it was not suitable to respond to the needs of the faculty. There is an intense need to improve the technical support for faculty, since it is a vital element in the online teaching adoption process. To improve the technical support, it is suggested to provide local technical support staff in the

College of Education. Local technical support could take many forms, including technical staff, Teaching Assistants, or tech-savvy students.

Immediate local technical support increases faculty understanding and willingness to teach online (Heilman, 2007). Hwu (2011) found that faculty needed more technical support in his study, as well. Knowing that someone capable is available in the course development stage, as well as the course implementation stage, is important, increases faculty motivation to problem solve the many elements and technical issues in the development of a successful online course.

4 – *Provide more training, workshops, and incentives to faculty for adopting online teaching.* Of the respondents, 81% either agreed or strongly agreed that they need instructional technology seminars/workshops. Additionally, 31% reported that they did not attend any training at all, and 16% reported attending less than five hours of training. Structured training sessions must be offered and tailored to faculty stages of concern. These should be scheduled in phases, so that attendees will be able to practice and apply what they have learned. Hwu (2011) found that these incentives increased faculty interest and support for adopting online teaching.

5 – *Increase gender equity for productivity purposes through enhanced administrative dialog, increased access to technology, better technology, and targeted training.* The stages of concern analysis indicated a statistically significant difference in respondents' concerns in adopting online teaching based on gender. The statistically significant differences were found in stage zero (Unconcerned) and stage three (Management). Female respondents expressed a higher degree of concern than male respondents in both stages. These findings echoed findings in similar studies conducted in other universities in Saudi Arabia (Al-Sarrani, 2010; Kamal, 2013). This indicated that the female faculty knew little about online teaching and/or had no

access to it. It also indicated that administration did not provide enough support in order to adequately adopt this innovation. To increase gender equity and access to the use of technology, it is recommended to:

- Increase female participation in university administration, technology acquisition, decision-making processes, and targeted training.

- Every department should conduct departmental reviews to assess the climate for female faculty for adopting online teaching.

- Female faculty should be encouraged share their views on the development of a university strategic plan for the adoption of online teaching.

- It must be ensured that the female campus has an adequate infrastructure for online teaching (e.g., internet access, computer labs, technical support, training).

Changing workforce requirements and global competitiveness, due to changing revenue patterns, require these adjustments if Saudi Arabia is to reduce its reliance on oil and raise the skills and productivity of its workforce.

6 – *Develop a strategic plan for online teaching and acquaint faculty with it.* The data have shown that the faculty perception of the need for a professional development plan by the university had a significant effect on their use of online teaching tools. George et al. (2006) argued that professional development was the most important among the demographic variables in determining concerns when adopting an innovation. Previous studies reported consistent findings (Al-Sarrani, 2010; Hwu, 2011; Kamal, 2013). When developing a strategic plan for online teaching, it is recommended to involve the faculty from each department in the College,

including women's faculty, in the development process. This plan needs to be robust. The Online Learning Consortium Quality Scorecard (2014) has an excellent section of the document that covers the technology support, faculty support, and institutional support for faculty who teach online.

It is also important to avoid putting unnecessary pressures on faculty by requiring immediate implementation within a short deadline. In this phase, given the level of concerns, it would be better to keep focus on the theory and practice of constructing pedagogically sound online courses, not perfect use in a hypothetical situation. Through progressive workshops and a plan for faculty professional development, faculty stages of concern in online teaching can be gradually grow higher as online teaching knowledge and skills are acquired and demonstrated.

Recommendations for Future Studies

1 - This study was limited to nine departments in the College of Education at King Saud University in Saudi Arabia (*N*=296, with response rate 66%). This study should be replicated in other Saudi Universities so that the results may be more generalizable.

2 – The results of this study are only accurate to the degree that faculty members were able to self-report their concerns, attitudes, and beliefs. It is highly recommended to investigate the concerns and needs of faculty in adopting online teaching using qualitative studies to gain a deeper understating.

3 – Female respondents expressed greater concerns than male respondents in adopting online teaching. t-test results indicated that female participants had a higher mean on stage zero than male participants. The mean difference (-2.265) was significant $t(278) = .012$. t-test results also indicated that female participants had a higher mean on stage three than male participants.

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The mean difference (-3.645) was significant t(276) = .000. This finding has been consistent with similar studies in other universities in Saudi Arabia (Al-Sarrani, 2010; Kamal, 2013). It is highly recommended to investigate the roots of these concerns and how to respond to them through exploratory qualitative studies of female faculty. Qualitative studies would elucidate concerns of a more specific nature.

4 - To expand upon the current study, it is recommended to conduct interviews with some participants who have been ranked at stage zero (Unconcerned) (96% percentile score, $M = 17.9$, $SD = 7.4$). Participants who were at this stage were the largest group, had the highest resistance, and were the most challenging group to work with. Interviewing them will help to dingoes the reason of their resistance and how to involve and encourage them to adopt online teaching.

5 - Further studies should include a longitudinal study to validate the findings of this study and to examine the changes in faculty members' concerns over time. It is highly recommended to develop a profile of concerns for every faculty member, department, and college.

6 – The study findings indicate the importance of culture as a significant factor that influenced the adoption of online teaching at King Saud University. For instance, studies conducted in Arabic countries reported difference in concerns based on gender (Al-Sarrani, 2010; Alshammari, 2000; Kamal, 2013), while studies conducted in USA did not (Hwu, 2011; Petherbridge, 2007). A study that focuses on online teaching adoption based on cultural values and perspectives might lead significant findings and recommendations to facilitate the online teaching adoption in Saudi Arabia.

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Appendix A - KSU IRB Approval

KANSAS STATE | University Research Compliance Office
U N I V E R S I T Y

TO: Rosemary Talab   Proposal Number: 7799
      Curriculum & Instruction
      226 Bluemont

FROM: Rick Scheidt, Chair
      Committee on Research Involving Human Subjects

DATE: 07/03/2015

RE: Proposal Entitled, "Concerns, Levels of Use and Professional Development Needs of Faculty at
      King Saud University in Saudi Arabian adopting online teaching"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State
University has reviewed the proposal identified above and has determined that it is EXEMPT from further
IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB.
Any change potentially affecting human subjects must be approved by the IRB prior to implementation and
may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the
Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 2,
subsection: ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that
research is exempt does not imply that investigators have no ethical responsibilities to subjects in such
research; it means only that the regulatory requirements related to IRB review, informed consent, and
assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the
Chair of the Committee on Research Involving Human Subjects, the University Research Compliance
Office, and if the subjects are KSU students, to the Director of the Student Health Center.

203 Fairchild Hall, Lower Mezzanine, Manhattan, KS 66506-1103 | 785-532-3224 | fax: 785-532-3278 | k-state.edu/research/comply | comply@ksu.edu

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Appendix B - Letter of Consent

Informed Consent Form

SURVEY PURPOSE

This survey is given to the faculty members in the College of Education at King Saud University who are willing to share their opinion in the study. This survey aims to investigate participants' concerns regarding the adoption of online teaching, professional development needs, and the levels of use of online teaching in the nine departments in the College of Education at King Saud University (Educational Policy Studies, Psychology, Curriculum and Instruction, Art Education, Educational Technology, Special Education, Educational Management, Islamic Studies, and Quranic Studies). Participation in this survey is totally voluntarily and the participant can quit any time or skip any question. Participation is anonymous and responses will only be used for the research purposes of this study.

SURVEY PROCEDURES AND LENGTH OF STUDY

If you agree to participate, you will be asked to respond to the survey items that include closed-ended and open-ended questions. Open-ended questions are intended to give participants more freedom to add more information not covered in the closed-ended questions. Completing this paper-and-pencil mail survey will require about 15-20 minutes to respond.

RISKS

There are no foreseeable risks for participating in this survey.

BENEFITS

Even though, there are no direct benefits to you as a participant; however, King Saud University's successful adoption of online teaching would provide college-level Saudi students with a learning environment that better serves their learning needs. Also, the findings will help in giving direction to adopt online teaching in your department, particularly in addressing the professional development needs of faculty members in technology integration in teaching in the university.

CONFIDENTIALITY

The data in this study will be confidential to the researcher. Moreover, participation will be anonymous and there is no personal information will be asked.

PARTICIPATION

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate, or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT

If you have any question or concern regarding this survey, please contact the study supervisor:

Dr. Rosemary Talab at: talab@ksu.edu

CONSENT

The Kansas State University Institutional Review Board waives the requirement for a signature

on this consent form, below, if you check the appropriate box and print your name.

_____CONSENT I, _____, have read this form and agree to voluntarily

participate in this research study. My name and all personal information will be confidential.

The Kansas State University Institutional Review Board has waived the requirement for a

signature on this consent form. However, if you wish to sign a consent, please contact Rosemary

Talab via e-mail at talab@ksu.edu for a consent form.

_____ I give consent to participate in this study.

_____ I do NOT give consent to participate in this study.

Appendix C - SEDL License Agreement

SEDL License Agreement

To: Saud Omar (Licensee)
4218 SW Shenandoah Road
Topeka, KS 66610

From: Nancy Reynolds
Information Associate
SEDL, an Affiliate of American Institutes for Research
Information Resource Center—Copyright Permissions
4700 Mueller Blvd.
Austin, TX 78723

Subject: License Agreement to reproduce and distribute SEDL materials

Date: April 14, 2015

Thank you for your interest in using the **Stages of Concern Questionnaire** (SoCQ 075) published by SEDL and written by Archie A. George, Gene E. Hall, and Suzanne M. Stiegelbauer in 2006 as Appendix A, pages 79-82 in *Measuring Implementation in Schools: The Stages of Concern Questionnaire*, in *Taking Charge of Change*, on pages 48-49, and in electronic format as SEDL's *SoCQ Online* accessible on the SEDL website at http://www.sedl.org/pubs/catalog/items/cbam21.html.

The SoCQ 075 will be referred to as the "work" in this License Agreement. SEDL is pleased to grant permission to the Licensee who will use the work in a thesis titled *Concerns, Levels of Use, and Professional Development Needs of Faculty at King Saud University in Saudi Arabia in Adopting Online Teaching* at Kansas State University in Manhattan, KS. The following are the terms, conditions, and limitations governing this limited permission to reproduce the work:

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SEDL License Agreement, p. 2

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I'm e-mailing you a PDF of this agreement. Please print and sign one copy below, indicating that you understand and agree to comply with the above terms, conditions and limitations, and send the original back to me. If you wish to keep a copy with original signatures, please also print, sign, and return a second copy and, after I receive and sign the copies, I'll return one with both of our signatures to you.

Thank you, again, for your interest in using the **Stages of Concern Questionnaire** (SoCQ 075). If you have any questions about this License Agreement, please contact me at 800-476-6861, ext. 6548 or 512-391-6548, or by e-mail at nancy.reynolds@sedl.org.

Sincerely,

Nancy Reynolds   *April 16, 2015*
Nancy Reynolds for SEDL, an Affiliate of   Date signed
American Institutes for Research

Agreed and accepted:

Signature: _____   14 APril 2015
                                                              Date signed

Printed Name: _Saud Omar_

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Appendix D - The Survey

Invitation to Survey Participants

Dear Colleague,

My name is Saud Omar, a Ph.D. candidate in the Department of Curriculum and Instruction, College of Education, Kansas State University. I am seeking your help in a survey about Concerns, Levels of Use, and Professional Development Needs of Faculty at King Saud University in Saudi Arabia in Adopting Online Teaching. This study is being conducted as research for my dissertation. This study will investigate the concerns of faculty, levels of use, and professional development needs in adopting online teaching at King Saud University. The findings will help give direction to adopting online teaching in the College of Education, particularly in addressing the professional development needs of faculty members in technology integration in teaching.

Your response to this survey will be appreciated. It will take approximately 20 minutes to complete the survey. Your participation is voluntary, and therefore you may discontinue participation at any time without penalty. By agreeing to complete the survey, I will assume your agreement to participate in this study.

The confidentiality of your responses is an ethical issue I will respect in this study. Your professional and personal information is required in anonymous form to protect your individual identity and privacy.

If you have any questions regarding this study or the survey, please contact the researcher, Saud Omar, at saud23@ksu.edu, or cell phone: 785-317-8751, or contact Dr. Talab, the researcher's Major Professor, at talab@ksu.edu.

Thank you for taking time to complete this task and for your assistance.

Kind Regards,

Saud A. Omar
Ph.D. Candidate
Department of Curriculum and Instruction
Kansas State University

Section I: Attitudes Towards Online Teaching

Please circle the option that best reflects how you feel about each of the following statements.

Rating Scale: Strongly Agree (SA = 5), Agree (A = 4), Neutral (N = 3), Disagree (D = 2), Strongly Disagree (SD = 1)

Statement	SA	A	N	D	SD
1. I am interested in learning how to integrate technology into online teaching.	5	4	3	2	1
2. I believe that online classes would be beneficial to my students.	5	4	3	2	1
3. I am interested in learning how to change my pedagogy to be able to teach online.	5	4	3	2	1
4. I am interested in attending workshops on how to teach online.	5	4	3	2	1

Section II: Administrative Support for Online Teaching

Please indicate your agreement with the following statements by circling your response.
Rating Scale: "1" indicates a strong disagreement and "5" indicates a strong agreement. Mark "don't know" only if you feel you cannot provide an opinion regarding the question.

1	2	3	4	5	DK
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Don't Know

5 (A): Administrators in my department are supportive of faculty members who teach with technology.	1 2 3 4 5 DK
5 (B): Administrators in my department recognize the additional workload required to teach with technology.	1 2 3 4 5 DK
5 (C): Administrators in my department communicate with faculty about the value of teaching with technology.	1 2 3 4 5 DK

6 (A): Administrators in my college are supportive of faculty members who teach with technology.	1 2 3 4 5 DK
6 (B): Administrators in my college recognize the additional workload required to teach with technology.	1 2 3 4 5 DK
6 (C): Administrators in my college communicate with faculty about the value of teaching with technology.	1 2 3 4 5 DK

Section III: Concerns about the Innovation

        The purpose of this questionnaire is to determine what people, who are using or thinking about using online teaching are concerned about at various times during the adoption process. The items were developed from typical responses of school and college teachers who ranged from no knowledge at all about online teaching to many years of using them. Therefore, **many of the items on this questionnaire may appear to be of little relevance or irrelevant to you at this time.** For the completely irrelevant items, please circle "0" on the scale. Other items will represent those concerns you do have, in varying degrees of intensity, and should be marked higher on the scale.

For example:

This statement is very true of me at this time.   0 1 2 3 4 5 6 ⑦

This statement is somewhat true of me now.   0 1 2 3 ④ 5 6 7

This statement is not at all true of me at this time.   0 1 ② 3 4 5 6 7

This statement is irrelevant to me.   ⓪ 1 2 3 4 5 6 7

Please respond to the items in terms of *your present concerns*, or how you feel about your involvement with **online teaching**. Online teaching is an open and distributed learning environment that uses pedagogical tools, enables by different technologies and software (e.g., Blackboard, Elluminate Live, or mobile learning), to facilitate learning and knowledge building through meaningful action and interaction.

Thank you for taking time to complete this task.

7.	I am concerned about students' attitudes toward online teaching.	0	1	2	3	4	5	6	7
8.	I now know of some other approaches that might work better.	0	1	2	3	4	5	6	7
9.	I do not even know what online teaching is.	0	1	2	3	4	5	6	7
10.	I am concerned about not having enough time to organize myself each day.	0	1	2	3	4	5	6	7
11.	I would like to help other faculty in their use of online teaching.	0	1	2	3	4	5	6	7
12.	I have a very limited knowledge about online teaching.	0	1	2	3	4	5	6	7
13.	I would like to know the effect of reorganization on my professional status.	0	1	2	3	4	5	6	7
14.	I am concerned about conflict between my interests and my responsibilities.	0	1	2	3	4	5	6	7
15.	I am concerned about revising my use of online teaching.	0	1	2	3	4	5	6	7
16.	I would like to develop working relationships with both our faculty and outside faculty using online teaching.	0	1	2	3	4	5	6	7
17.	I am concerned about how online teaching affects students.	0	1	2	3	4	5	6	7
18.	I am not concerned about online teaching.	0	1	2	3	4	5	6	7
19.	I would like to know who would make the decisions in online teaching.	0	1	2	3	4	5	6	7
20.	I would like to discuss the possibility of using online teaching.	0	1	2	3	4	5	6	7
21.	I would like to know what resources are available if we decide to adopt online teaching.	0	1	2	3	4	5	6	7
22.	I am concerned about my inability to manage all online teaching requires.	0	1	2	3	4	5	6	7
23.	I would like to know how my teaching or administration is supposed to change.	0	1	2	3	4	5	6	7

24.	I would like to familiarize other departments or persons with the progress of online teaching.	0	1	2	3	4	5	6	7
25.	I am concerned about evaluating my impact on students.	0	1	2	3	4	5	6	7
26.	I would like to revise online teaching's instructional approach.	0	1	2	3	4	5	6	7
27.	I am completely occupied with things other than online teaching.	0	1	2	3	4	5	6	7
28.	I would like to modify our use of online teaching based on the experiences of our students.	0	1	2	3	4	5	6	7
29.	I spend little time thinking about online teaching.	0	1	2	3	4	5	6	7
30.	I would like to excite my students about their part in online teaching.	0	1	2	3	4	5	6	7
31.	I am concerned about time spent working with nonacademic problems related to online teaching.	0	1	2	3	4	5	6	7
32.	I would like to know what the use of online teaching would require in the immediate future.	0	1	2	3	4	5	6	7
33.	I would like to coordinate my effort with others to maximize online teaching's effects.	0	1	2	3	4	5	6	7
34.	I would like to have more information on time and energy commitments required by online teaching.	0	1	2	3	4	5	6	7
35.	I would like to know what other faculty are doing in online teaching.	0	1	2	3	4	5	6	7
36.	At this time, I am not interested in learning about online teaching.	0	1	2	3	4	5	6	7
37.	I would like to determine how to supplement, enhance, or replace online teaching.	0	1	2	3	4	5	6	7
38.	I would like to use feedback from students to change my online teaching.	0	1	2	3	4	5	6	7
39.	I would like to know how my role will change when I am using online teaching.	0	1	2	3	4	5	6	7
40.	Coordination of tasks and people is taking too much of my time.	0	1	2	3	4	5	6	7

41.	I would like to know how online teaching is better than what we have now.	0	1	2	3	4	5	6	7

Section IV: Professional Development Needs and Prior Instructional Technology Use

Please circle the option that best reflects how you feel about each of the statements.

Rating Scale: Strongly Agree (SA = 5), Agree (A = 4), Neutral (N = 3), Disagree (D = 2), Strongly Disagree (SD = 1)

Statement	SA	A	N	D	SD
42. I have an immediate need for more training with curriculum that integrates technology.	5	4	3	2	1
43. I need technical support to support my technology using in instruction.	5	4	3	2	1
44. I need instructional technology seminars/workshops.	5	4	3	2	1
45. My university's faculty technology professional development plan meets my technology needs.	5	4	3	2	1

Please indicate your experience with the following online teaching tools by:
    a. In column A check the system(s) that you have used in your instruction, including this semester (if you use it);
    b. In column B indicate the number of semesters you have used the system(s) including this semester;
    c. If you have not used any system please select "**None**".

The Systems	A. Check the system(s) you have used in your instruction.	B. Indicate the approximate number of semesters you have used this system, including this semester.

46. Learning Management System (e.g., Blackboard, Jusur, Moodle)		
47. Web Conferencing Applications (e.g., Elluminate Live, Skype, Adobe Connect)		
48. Mobile Learning (e.g., text messaging, iPhone apps, iPad apps, Android apps)		
49. Social Media Tools (Facebook, Twitter, Diigo)		
50. Other (Please describe):		
51. None (I do not use any online teaching tools)		XXX

How often do you use the following application software for instruction?

Please, rate your frequency of use as follows: Almost Always (AA = 5), Frequently (F = 4), Sometimes (S = 3), Rarely (R = 2), Never (N = 1)

Statement	AA	F	S	R	N
52. Search engines (for example: Google) for research.	5	4	3	2	1
53. Electronic resources (for example: web pages, e-books, online videos, etc.) to supplement instruction.	5	4	3	2	1
54. Microsoft PowerPoint for presentation in class	5	4	3	2	1
55. E-mail for communication with student	5	4	3	2	1

56. Approximately how many technology-related professional development hours have you attended in the last two years? Please write your response on the line. (Note: technology-related professional development hours might include workshops, seminars, programs, or conferences that you have attended.)

_____

57. Do you have access to personnel (e.g., student assistants, staff) that can help you use any of the online learning systems?

       YES   NO

58. What professional development activities, incentives, support, etc., do you need in order to be able to teach effectively online? List them using the space below. If there is not enough space, write on the back:

Section V: Levels of Using Online Teaching

59. Please select **one** statement of the following statements best describes your level of using online teaching in your instruction.

Statement	Select one statement that best describes your level of using online teaching in your instruction
I have been using online teaching for an extended period. At this time, I am looking to make major improvements in the way I use it.	
I have been using online teaching to improve outcomes and I am sharing my experiences with colleagues.	
I have been using online teaching for a while and I am beginning to make changes to improve outcomes.	
I am comfortable using online teaching and it has become a part of my routine instructional strategy.	
I am using online teaching with a focus on short-term actions, as I have little time for reflection	
I am preparing to use online teaching for the first time.	
I have recently learned about how to use online teaching.	

I have little or no knowledge about how to use online teaching.	

If you currently teach or have taught online, then answer 60 and 61:

60. What are the challenges, strengths, and weaknesses of online teaching?

61. How do you teach online?

Section VI: Demographic Information

Age	
Gender	Male Female
Country of Graduation	_____
Years of Teaching Experience	
Department	Educational Policy Studies Psychology Curriculum and Instruction Art Education Educational Technology Special Education Educational Management Islamic Studies Quranic Studies
Academic Rank	Professor Associate Professor Assistant Professor Lecturer or Teaching Assistant

Appendix E - The Arabic Survey

سعادة عضو هيئة التدريس بكلية التربية في جامعة الملك سعود   حفظكم الله،

السلام عليكم ورحمة الله وبركاته

أنا أحد مبتعثي جامعة الملك سعود إلى جامعة ولاية كنساس الأمريكية لدراسة الدكتوراه في مجال التعليم الإلكتروني. أرجو التكرم بتعبئة الاستبانة المرفقة والتي تتعلق برسالتي وعنوانها: "اهتمامات، وطرق استخدام، واحتياجات التطوير المهني لأعضاء هيئة التدريس في جامعة الملك سعود في تبنّي التعليم عن بعد."

إن مشاركتك في هذه الاستبانة في غاية الأهمية بغض النظر عن مستوى استخدامك الحالي للتقنية في تدريسك، وستثري هذا البحث، وستضيف إليه قيمة علمية. علماً بأن أي معلومات تقدمها في هذه الاستبانة ستكون سرية تماما، وستستخدم فقط لأغراض هذا البحث. بإمكانك تعبئة النسخة الإلكترونية على الرابط: https://goo.gl/NFvZFP

مع شكري وتقديري لسعادتكم على اقتطاع جزء من وقتكم الثمين لتعبئة هذه الاستبانة.

سعود عبدالعزيز العمر

قسم المناهج وطرق التدريس

كلية التربية

بريد إلكتروني: somar@ksu.edu.sa

جوال: ٠٥٦٩٣٩٩٥٨٧

المحور الأول: آراء ومواقف أعضاء هيئة التدريس حول التعليم عن بعد

– من فضلك حدد الخيار الذي يتفق مع درجة موافقتك أو عدم موافقتك مع الفقرات التالية وذلك بناء على المقياس التالي:

لا أوافق بشِدّة	لا أوافق	محايد	أوافق	أوافق بشدَّة
٥	٤	٣	٢	١

١.	أنا مهتم بتعلم المزيد عن أفضل طرق التعليم عن بعد.	١	٢	٣	٤	٥
٢.	أؤمن بأن التعليم عن بعد طريقة مفيدة للتدريس.	١	٢	٣	٤	٥
٣.	لدي اهتمام بحضور ورش عمل متعلقة بالتعليم عن بعد.	١	٢	٣	٤	٥
٤.	أنا مهتم بتعلم المزيد حول التغييرات اللازمة للمقرر الدراسي لكي يمكن تقديمه عن بعد.	١	٢	٣	٤	٥

المحور الثاني: الدعم الإداري لاستخدام التقنية في التعليم

– من فضلك حدد الخيار الذي يتفق مع درجة موافقتك أو عدم موافقتك مع الفقرات التالية وذلك بناء على المقياس التالي:

لا أعلم	لا أوافق بشِدّة	لا أوافق	محايد	أوافق	أوافق بشدَّة
لا أعلم	٥	٤	٣	٢	١

٥. دعم مسؤولي القسم:

أ.	مسؤولو قسمي يشجعون أعضاء هيئة التدريس الذين يستخدمون التقنية في التعليم.	١	٢	٣	٤	٥	لا أعلم
ب	مسؤولو قسمي يدركون أن استخدام التقنية في التعليم يتطلب جهدا إضافياً.	١	٢	٣	٤	٥	لا أعلم
ج	مسؤولو قسمي يخبرون أعضاء هيئة التدريس بأهمية استخدام التقنية في التعليم.	١	٢	٣	٤	٥	لا أعلم

٦. دعم مسؤولي الكلية:

أ.	مسؤولو الكلية يشجعون أعضاء هيئة التدريس الذين يستخدمون التقنية في التعليم.	١	٢	٣	٤	٥	لا أعلم
ب	مسؤولو الكلية يدركون أن استخدام التقنية في التعليم يتطلب جهدا إضافياً.	١	٢	٣	٤	٥	لا أعلم
ج	مسؤولو الكلية يخبرون أعضاء هيئة التدريس بأهمية استخدام التقنية في التعليم.	١	٢	٣	٤	٥	لا أعلم

1

المحور الثالث: اهتمام أعضاء هيئة التدريس بالتعليم عن بعد

– أمام كل عبارة من العبارات التالية أختر درجة انطباق (أو عدم انطباق) تلك العبارة على مدى اهتمامك بالتعليم عن بعد:

تنطبق علي جداً حالياً	تنطبق علي نوعاً ما حالياً	لا تنطبق علي حاليا
٧، ٦	٥، ٤، ٣	٢، ١، ٠

٧	٦	٥	٤	٣	٢	١	٠		
٧	٦	٥	٤	٣	٢	١	٠	أنا مهتم بمعرفة شعور الطلاب تجاه التعليم عن بعد.	٧.
٧	٦	٥	٤	٣	٢	١	٠	أنا على معرفة بطرق تدريس أخرى قد تحقق نتائج أفضل.	٨.
٧	٦	٥	٤	٣	٢	١	٠	ليس لدي أي فكرة ما هو التعليم عن بعد.	٩.
٧	٦	٥	٤	٣	٢	١	٠	أنا متخوف من عدم توفر وقت كافٍ في حال استخدامي للتعليم عن بعد.	١٠.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمساعدة أعضاء هيئة التدريس الآخرين في تعلم كيفية استخدام التعليم عن بعد.	١١.
٧	٦	٥	٤	٣	٢	١	٠	عندي معرفة محدودة جدا عن التعليم عن بعد.	١٢.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمعرفة تأثير عملية استخدام التعليم عن بعد على مركزي الوظيفي.	١٣.
٧	٦	٥	٤	٣	٢	١	٠	أنا قلق بالنسبة للتضارب بين اهتماماتي ومسؤولياتي.	١٤.
٧	٦	٥	٤	٣	٢	١	٠	أنا مهتم بمراجعة وتصحيح طريقة استعمالي للتعليم عن بعد.	١٥.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بإقامة علاقة عمل مع كل من طاقم التعليم الخاص بنا وطاقم تعليم من خارج الجامعة ممن يستعملون التعليم عن بعد.	١٦.
٧	٦	٥	٤	٣	٢	١	٠	أنا مهتم بمعرفة تأثير التعليم عن بعد على الطلبة.	١٧.
٧	٦	٥	٤	٣	٢	١	٠	أنا غير مهتم بالتعليم عن بعد حاليًا.	١٨.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمعرفة من سيتخذ القرارات في هذا النوع الجديد من التعليم.	١٩.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمناقشة إمكانية استخدام التعليم عن بعد في الجامعة.	٢٠.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمعرفة المصادر والوسائل التعليمية المتوفرة في حال قُرر استعمال التعليم عن بعد في الجامعة.	٢١.
٧	٦	٥	٤	٣	٢	١	٠	أنا قلق بالنسبة لعدم مقدرتي على تلبية متطلبات التعليم عن بعد.	٢٢.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمعرفة كيفية تغيير طريقة تعليمي أو إدارتي عند استعمال التعليم عن بعد.	٢٣.
٧	٦	٥	٤	٣	٢	١	٠	أود أن أزوّد الأقسام المختلفة والأفراد بمعلومات عن آخر التطورات في مجال التعليم عن بعد في حال تطبيقه.	٢٤.

تنطبق علي جداً حالياً	تنطبق علي نوعاً ما حالياً	لا تنطبق علي حاليا
٧، ٦	٥، ٤، ٣	٢، ١، ٠

٧	٦	٥	٤	٣	٢	١	٠		
٧	٦	٥	٤	٣	٢	١	٠	أنا مهتم في تقييم تأثيري على الطلبة.	٢٥.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمراجعة وتصحيح مسار تطبيق التعليم عن بعد في الجامعة.	٢٦.
٧	٦	٥	٤	٣	٢	١	٠	أنا مشغول كلياً بأشياء أخرى غير التعليم عن بعد.	٢٧.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بتعديل استخدامنا للتعليم عن بعد بناءًا على تجارب طلابنا.	٢٨.
٧	٦	٥	٤	٣	٢	١	٠	لم أصرف جزءأ كبيرًا من وقتي للتفكير في التعليم عن بعد.	٢٩.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بث الحماس بين طلبتي حول دورهم في التعليم عن بعد.	٣٠.
٧	٦	٥	٤	٣	٢	١	٠	أنا قلق بالنسبة للوقت المخصص للتعامل مه المسائل غير التعليمية المتعلقة بالتعليم عن بعد.	٣١.
٧	٦	٥	٤	٣	٢	١	٠	أنا أرغب بمعرفة متطلبات استعمال التعليم عن بعد على المدى القريب.	٣٢.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بتنسيق جهودي مع الآخرين للحصول على أقصى فوائد التعليم عن بعد.	٣٣.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بالحصول على معلومات أكثر حول الوقت والجهد اللذين يتطلبهما تطبيق التعليم عن بعد.	٣٤.
٧	٦	٥	٤	٣	٢	١	٠	أرغب بمعرفة ما يفعله الأساتذة الآخرون في التعليم عن بعد.	٣٥.
٧	٦	٥	٤	٣	٢	١	٠	في الوقت الحاضر أنا غير مهتم بالتعليم عن بعد.	٣٦.
٧	٦	٥	٤	٣	٢	١	٠	أنا أرغب في معرفة كيفية تطوير أو تحسين أو حتى استبدال التعليم عن بعد استراتيجية أخرى.	٣٧.
٧	٦	٥	٤	٣	٢	١	٠	أرغب في استعمال ردود فعل الطلبة بالنسبة للتعليم عن بعد بهدف تطويره.	٣٨.
٧	٦	٥	٤	٣	٢	١	٠	أرغب في معرفة كيفية تغيير دوري التعليمي بعد تطبيق التعليم عن بعد.	٣٩.
٧	٦	٥	٤	٣	٢	١	٠	إن التنسيق بين الأعمال والأشخاص يأخذ الكثير من وقتي.	٤٠.
٧	٦	٥	٤	٣	٢	١	٠	أود أن أعرف لماذا يعتبر التعليم عن بعد أفضل مما لدينا حالياً.	٤١.

المحور الرابع: الاحتياجات التقنية لأعضاء هيئة التدريس

– ما مدى استخدامك للتقنيات التالية في تدريسك؟ (الرجاء الإجابة بناء على المقياس التالي):

لا أستخدمه	قليلا جداً	أحياناً	غالباً	دائماً
٥	٤	٣	٢	١

٥	٤	٣	٢	١	استخدام محركات البحث (مثل قوقل وياهو) لأغراض بحثية.	٤٢.
٥	٤	٣	٢	١	استخدام المصادر الإلكترونية (مثل كتب إلكترونية، روابط لمواقع، محاضرات فيديو) لدعم تدريسك.	٤٣.
٥	٤	٣	٢	١	استخدام الشرائح الإلكترونية (مثل الباوربوينت Powerpoint) في التدريس.	٤٤.
٥	٤	٣	٢	١	استخدام البريد الإلكتروني للتواصل مع الطلاب.	٤٥.

– من فضلك حدد عدد الفصول الدراسية التي استخدمت فيها برامج الحاسب التعليمية التالية في تدريسك الجامعي:

ب. عدد الفصول الدراسية التي استخدمت فيها هذا النظام بمافيها الفصل الحالي.	أ. النظام التعليمي	
	٤٦. نظام إدارة التعلم (مثل نظام بلاكبورد Blackboard).	☐
	٤٧. برامج الاجتماعات واللقاءات عبر الإنترنت (مثل سكايب Skype).	☐
	٤٨. برامج التعلم عن طريق الجوال (مثل تطبيقات الآيفون أو الآيباد، أو الرسائل النصية).	☐
	٤٩. شبكات التواصل الاجتماعي (مثل تويتر Twitter أو الفيس بوك Facebook)	☐
	٥٠. برامج أخرى (أرجو تسميتها):	☐
XXX	٥١. لم يسبق لي استخدام أي برنامج حاسوبي تعليمي.	☐

<u>المحور الخامس: طرق استخدام التدريس عن بعد</u>

٥٨. من فضلك أختر <u>فقرة واحدة</u> من بين الفقرات التالية التي هي الأقرب في وصف طريقة استخدامك للتعليم عن بعد في تدريسك:

مستوى ١: ليس لدي اي خلفية، أو معرفتي بسيطة، بالتعليم عن بعد.	○
مستوى ٢: تعلمت منذ فترة وجيزة كيف أوظف التعليم عن بعد في طريقة تدريسي.	○
مستوى ٣: أنا أجهز نفسي لاستخدام التعليم عن بعد للمرة الأولى.	○
مستوى ٤: أنا أركز في استخدامي في التدريس عن بعد على الأهداف قصيرة المدى، وليس لدى وقت كثير للتعمق فيه.	○
مستوى ٥: أنا مرتاح في طريقة استخدامي للتدريس عن بعد وقد صار جزء روتينيا في طريقتي في التدريس.	○
مستوى ٦: أنا أستخدم التعليم عن بعدة لفترة متوسطة، والآن أنا في بداية محاولتي للقيام بتطويرات بسيطة في طريقة استخدامي.	○
مستوى ٧: أنا أستخدم التدريس عن بعد كي أحسّن من النتائج، وأشارك تجربتي مع الزملاء.	○
مستوى ٨: أنا أستخدم التدريس عن بعد منذ فترة طويلة. حاليا أنا أحاول أن اطور من طريقة استخدامي له بطريقة جذرية.	○

– إذا كنت تستخدم التعليم عن بعد في تدريسك أرجو إجابة التالي (بإمكانك الكتابة خلف الصفحة):

٥٩. ما لذي يعجبك في التعليم عن بعد؟

٦٠. ما لذي لا يعجبك في التعليم عن بعد؟

٦١. ما هو أسلوبك في التدريس عن بعد؟

بيانات تعريفية

القسم:	☐ الدراسات الإسلامية
	☐ الدراسات القرآنية
	☐ التربية الخاصة
	☐ التربية الفنية
	☐ المناهج وطرق التدريس
	☐ تقنيات التعليم
	☐ علم النفس
	☐ الإدارة التربوية
	☐ السياسات التربوية

| الرتبة الأكاديمية: | ☐ أستاذ | ☐ أستاذ مساعد |
| | ☐ أستاذ مشارك | ☐ معيد أو محاضر |

| عدد سنوات التدريس: | |

| الدولة التي حصلت منها على أخر مؤهل علمي: | |

| الجنس: | ☐ ذكر | ☐ أنثى |

| العمر: | |

| الاسم (اختياري): | |

شاكر لكم كريم تعاونكم ،،

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Appendix F - A Support Letter from the Dean of the College of Education

"To Whom It May Concern"

As the dean of the college of education at King Saud University, I am pleased to write this letter in support of the study of the Ph.D. candidate Saud Omar entitled "The Concerns and Professional Development Needs of Faculty at King Saud University in Saudi Arabia in Adopting Online Teaching." The proposed study in online learning is highly relevant and well be in line with the research focus of the university.

The university guarantees the availability of the necessary resources and facilities in order to ensure a successful setting for the study.

Prof. Yousif A. Alshumaimeri

Dean of Faculty of Education
King Saud University
Riyadh, Saudi Arabia

BUREAU VERITAS
Certification

Appendix G - A Second Support Letter from the Dean of the College of Education

سعادة وكيل الجامعة للدراسات العليا والبحث العلمي   يحفظه الله

السلام عليكم ورحمة الله وبركاته ،،

أفيـد سـعادتكم بـأن المحاضـر بقسـم المنـاهج وطـرق التـدريس/ سـعود بـن عبدالعزيز العمـر، يقـوم بـإجراء دراسـة علميـة بعنـوان ((اهتمامـات، وطـرق اسـتخدام، واحتياجـات التطـوير المهنـي لأعضـاء هيئـة التـدريس فـي جامعـة الملـك سـعود فـي تبنـي التعلـيم عـن بعـد))، ويرغـب الباحـث فـي تطبيـق الاستبانة المرفقـة علـى عينـة مـن أعضـاء هيئـة التـدريس (رجـال / نسـاء) بكليـة التربيـة، وذلـك استكمالاً لمتطلبات الحصول على درجة الدكتوراه في مناهج وطرق تدريس الحاسب الآلي .

عليه، أمل تكرم سعادتكم التكرم بالموافقة على تطبيق الاستبانة المرفقة .

وتقبلوا فائق تحياتي وتقديري،،،

عميد كلية التربية

أ.د. يوسف بن عبدالرحمن الشميمري
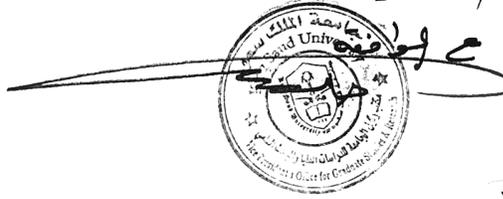
Appendix H - A Support Letter from the Dean of the

Deanship of e-Learning and Distance Learning

Kingdom of Saudi Arabia
Ministry of Higher Education
King Saud University
Code 034
E-Learning and Distance Learning Deanship
Dean's Office

بسم الله الرحمن الرحيم

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك سعود
رمزها ٠٣٤
عمادة التعليم الإلكتروني والتعلم عن بعد
مكتب العميد

Enclosures...................... :المرفقات   Date...................... :التاريخ   Number................... :الرقم

TO: Kansas State University

We, The deanship of e-Learning and Distance Learning, at King Saud University are willing to support the study of Ph.D Candidate Mr. Saud Omar entitled: "The Concerns and Professional Development Needs of Faculty at King Saud University in Saudi Arabia in Adopting Online Teaching." We expect this study to be an important addition to King Saud University e-learning and distance learning programs, and we look forward to benefit from this research findings in establishing future strategic plans at King Saud University.

Esam A. Alwagait, Ph.D.

Dean of Deanship of e-Learning and Distance Learning

King Saud University

Riyadh, Saudi Arabia

P. O. Box 11251, Riyadh 11451 Tel: 4674864   Fax. : 4678111

elearn@ksu.edu.sa : البريد الإلكتروني

ص .ب ١١٢٥١ الرياض ١١٤٥١ هاتف: ٤٦٧٤٨٦٤ فاكس: ٤٦٧٨١١١

Appendix I - Dr. Alwagait Vitae

Resume

Esam A. Alwagait, PhD
P.O. Box ، 240330 Riyadh, Saudi Arabia 11322
Email: alwagait@ksu.edu.sa

Education

❖ Ph.D from University of Polytechnic of Valencia
Valencia, Spain 2011
Summa Cum Laude

❖Master Degree, University of Southern California
Los Angeles, CA, USA 2002
GPA: 3.98/4.0

❖B.Sc Degree, King Saud University
Riyadh, Saudi Arabia 1998
GPA:4.61/5.00 Honours degree

Work Experience

❖ Dean, Deanship of E-Transactions and Communications
King Saud University
April 2012- present
❖ Assistant Professor
Computer Science Dept.- College of Computer and Information Sciences
November 2011- present
❖ Supervisor for KSU Potal
E-Transactions and Communications Deanship- KSU
2011- 2012
❖ Consultant to Deputy Minister for Planning and Information
Ministry of Higher Education
March- June 2010
❖ Portal and e-Services Department Manager
E-Transactions and Communications Deanship- KSU
March 2007- November 2009
❖ Main Researcher
Information Science Institute – Los Angeles
March 2004 – December 2004
❖ Research Assistant
Database Lab – University of Southern California
August 2002 – May 2006
❖ Teaching Assistant
College of Computer and Information Sciences - KSU
July 1999- August 2000
❖ Network Security Engineer
International Systems Engineering
June 1998 – Jun1999

Awards

❖ Summa Cum Laude 2011
❖ Prince Bander bin Sultan award for scientific achievement 2002
❖ Second class honor degree, King Saud University 1998

Resume

❖ Student of the Year, College of Computer and Information Science 1998

Publications

2014

❖ Alwagait E, Shahzad B. Identification of the Best and the Worst Time to Tweet: An Experimental Study.15th International Conference on MATHEMATICS and COMPUTERS in BUSINESS and ECONOMICS, to be held in Cambridge, MA, USA, January 29-31, 2014 (Accepted).
❖ Shahzad B, Alwagait E, Saudi Telecom Componies and their Presence on Twitter, 11th International Conference on Information Technology and New Generations (ITNG), Las Vegas. (Submitted).
❖ Alwagait E, Shahzad B. Popularity of Apple and Samsung's Smartphone: A Twitter Analysis, International Journal of Advanced Manufacturing Technology. (Submitted)

2013

❖ Shahzad, B, Alwagait E. Smartphone's Popularity Measurement by Investigating Twitter Profiles. The International Conference on Information Systems and Technology Management. June 2013, Brazil.
❖ Shahzad B, Alwagait E. Utilizing Technology Education Environment: A case Study. 10th International Conference on Information Technology and New Generations (ITNG), Las Vegas. 15-17 April 2013.
❖ ❖ Alwagait E, Shahzad, B. Popularity Analysis for Saudi Telecom Companies Based on Twitter Data. Research Journal of Applied Sciences, Engineering, and Technology, vol. 6 no.24, pp 4676-4680.

2012

❖ Shahzad B, Alwagait E. Definition of Project Scale and success factors in HI projects, Science Series Data Record, 4(8) , August 2012.
❖ Shahzad B, Alwagait E. Social Networking Data Acquisition Methodology for Real Time Decision Making and its value to Saudi Arabia, Science Series Data Record, 4(6) , June 2012.
❖ Shahzad, B, Alwagait E. Response Collection and Prioritization Strategy for Posts/Issues Formation on Social Networks. 12th International Conference on Computer, Electrical, System Science and Engineering, 2012.
❖ Alohali, Y, shahzad B, Al-nafjan A, Alwagait E. , Social Networking Data Acquisition Methodology   for Real Time Decision Making and its Value to Saudi Arabia. Science Series   Data   Record. 4(6):11-21, 2012.
❖ Shahzad, B, Alwagait E. 2012. Response Collection and Prioritization Strategy for Posts/Issues Formation on Social Networks. 12th International Conference on Computer, Electrical, System Science and Engineering.
❖ Alohali, Y, shahzad B, Al-nafjan A, Alwagait E. 2012. Social Networking Data Acquisition Methodology for Real Time Decision Making and its Value to Saudi Arabia. Science Series Data Record. 4(6):11-21.

2000-2006

❖ S. Ghandeharizadeh, E. Alwagait, and S. Manjunath. Proteus RTI: A Framework for On-the-fly Integration of Biomedical Web Services. USC Database Laboratory Technical Report Number 2006-05

Resume

- ❖ Saxena, S. Kim, E. Alwagait, A. M. Khan, G. Burns, J. Su, A. G. Watts, and S. Ghandeharizadeh. Sangam: A Data Integration Framework for Studies of Stimulus-Circuitry-Gene Coupling in the Brain. Society of Neuroscience, Neuroscience 2005, Washington D.C., November 12-16, 2005.
- ❖ E. Alwagait and S. Ghandeharizadeh. A Comparison of Alternative Web Service Allocation and Scheduling Policies. In IEEE International Conference on Services Computing (SCC), Shanghai, China, September 15-18, 2004.
- ❖ E. Alwagait, and S. Ghandeharizadeh. DeW: A Dependable Web Services Framework. In 14th International Workshop on Research Issues on Data Engineering (Web Services for E-Commerce and E-Goverment Applications), Boston, Massachusetts, USA, March 28-29, 2004.
- ❖ Shahram Ghandeharizadeh, Craig A. Knoblock, Christos Papadopoulos, Cyrus Shahabi, Esam Alwagait, Jose Luis Ambite, Min Cai, Ching-Chien Chen, Parikshit Pol, Rolfe Schmidt, Saihong Song, Snehal Thakkar, and Runfang Zhou. Proteus: A System for Dynamically Composing and Intelligently Executing Web Services. In the First International Conference on Web Services(ICWS), Las Vegas, Nevada, June 2003
- ❖ S. Ghandeharizadeh, F. Sommers, J. Kuntal, and E. Alwagait. A Document as a Web Service: Two Complementary Frameworks. In Second International Workshop on Multimedia Data Document Engineering (MDDE'02), March 2002.
- ❖ Alwagait, E.; Alfantookh, A. "Multi-Level authentication model for the World Wide Web." Proceedings of the Gulf Internet 99 Symposium (GI'99), Dammam, Saudi Arabia, September 1999, pp. 96-99.

Appendix J - Dr. Alshumaimeri Vitae

Yousif A. N. Alshumaimeri

Occupation:	Professor
Work place:	King Saud University, College of Education
Department:	Curriculum and Instruction Department
General Major:	Curriculum and Instruction
Major:	TESOL
Work Address:	P.O.Box: 2458, Riyadh: 11451, Saudi Arabia
Work TEL:	009661-4674640 – 009661-4674611
E-Mail Address:	yousif@alostath.com
Website:	www.alostath.com

Education

2003   **PhD**
School of Education, University of Leeds.

1999   **MEd. In TESOL**
School of Education, University of Leeds.
This was a postgraduate degree course specialising in TESOL. The sul
areas covered included: Teaching English to speakers of other languages.

1996   **Bachelor of Education**
College of Eduation, King Saud University, Saudi Arabia.

Work Experience

1996-1997	English language teacher at Al-Abna'a Secondary School in Riyadh.
1997-1998	Teacher assistant and Language teacher at King Abdulaziz Military Academy in Riyadh.
1998-2003	Teacher assistant at King Saud University, College of Education, Curriculum and Instruction department.
2001-2002	Deputy Headmaster for the Saudi Arabic school in Leeds, UK.
2003-2008	Assistant Professor at King Saud University, College of Education, Curriculum and Instruction department.
2007-2008	Chair, Department of Self-Development Skills, Preparatory Year Deanship.
2008-date	Associate Professor at King Saud University, College of Education, Curriculum and Instruction department.
2008-2010	Vice Dean for Academic Development at the Deanship of Development.
2008-2010	General supervisor for Leeds University agreements with King Saud University.
2009-2010	Supervisor of Kent State University agreement with King Saud University.
2011-2012	Research Fellow at the University of Leeds.
2012-date	Professor at King Saud University, College of Education, Curriculum and Instruction department.
2012-2013	Chair, Department of Curriculum and Instruction, College of Education, King Saud University.
2012-date	Associate Dean for Graduate Studies and Research at the College of Education, King Saud University.
2014–date	Editor–in–Chief of King Saud University Journal for Educational Sciences.

Other Skills /Awards

Diploma in NLP in Education.
Several short courses in the use of computers in Education and CALL.
Two courses in teaching English to young learners.
Two courses in syllabus design.
Courses in leadership and administration.
A special course in qualitative analysis using computers.

Research Activities

1. Alshumaimeri, Y. A. N. (1999). *Saudi students' perceptions of their textbook: English for Saudi Arabia, (EFSA), secondary year one.* Unpublished Master Dissertation, University of Leeds, Leeds.
2. Alshumaimeri, Y. A. N. (2003). *A study of classroom exposure to oral pedagogic tasks in relation to the motivation and performance of Saudi secondary learners of English in a context of potential curriculum reform.* Unpublished Doctoral Thesis, University of Leeds, Leeds.
3. Alshumaimeri, Y. (2006). The effects of content familiarity and language ability on reading comprehension performance of low-and high-ability Saudi tertiary students studying English as a foreign language. *King Saud University, Educational Sciences & Islamic Studies, 18*(2), 1-19.
4. Cook, G. (2008). *Applied Linguistics* (Y. Alshumaimeri, Trans.). Riyadh: King Saud University.
5. Alshumaimeri, Y. (2008) Perceptions and attitudes toward using CALL in English classrooms among Saudi secondary EFL teachers. *The JALT Journal,* 4(2), 29-46.
6. Alshumaimeri, Y. (2009). Gender differences in Reading comprehension performance in relation to content familiarity of gender-neutral texts. *Journal of Education,* 24/93. Kuwait.
7. Alshumaimeri, Y. & Alghamdi, F. (2009) *Perceptions of Saudi PYP students about the IEP at King Saud University.* Research paper presented at IATEFL Annual Conference, Cardiff 2009, UK.
8. Alshumaimeri, Y. & Alhassan, R. (2010) *Current availability and use of ICT among Secondary EFL Teachers in Saudi Arabia: Possibilities and Reality.* Full paper presented at Global Learn Asia Pacific 2010 Conference on Learning and Technology, Penang, Malaysia.
9. Alshumaimeri, Y. (2010) *Using oral pedagogic tasks with learners of English in Saudi Arabia: Motivation and oral production.* LAMBERT Academic Publishing.
10. Alshumaimeri, Y. (2011) The effects of wikis on foreign language students writing performance. *Procedia- Social and Behavioral Sciences,* 28, 755-763.
11. Alshumaimeri, Y. (2011) The effects of reading method on the comprehension performance of Saudi EFL students. *International Electronic Journal of Elementary Education,* 4(1),185-195.
12. Alshumaimeri, Y. (2011) Perceptions of Saudi preparatory year students about the intensive English program. *College of Arts Annals,* Ain Shams University, 39, 565-593.
13. Alshumaimeri, Y. & Alarfaj, A. (2012) The effect of a suggested training program on reading speed and comprehension of Saudi female university students. *Procedia- Social and Behavioral Sciences,* 31, 612-628.
14. Borg, S., Alshumaimeri, Y.A. (2012). "University teacher educators' research engagement: Perspectives from Saudi Arabia". *Teaching and Teacher Education, 28(3),* 347-356.
15. Wedell, M. (2012) *Planning for educational change: Putting people and their context first.* (Y. Alshumaimeri, Trans.). Riyadh: King Saud University Scientific Publishing.
16. Alshumaimeri, Y. (2012) From the editor. *International Journal of Instruction,* 5/2, 1-4.
17. Alshumaimeri, Y. & Almasri, M. (2012) The Effects of Using WebQuests on Reading Comprehension Performance of Saudi EFL Students. *TOJET,* 11(4), 295-306.
18. Alshumaimeri, Y. (2013) The Effect of an Intensive English Language Program on First Year University Students' Motivation. *Journal of Educational & Psychological Sciences,* 14(1), 11-33, University of Bahrain.
19. Alshumaimeri, Y. & Bamanger, E. (2013) The effects of Webquest writing instruction on the writing performance of Saudi male EFL learners. *Procedia- Social and Behavioral Sciences,* 83, 960-968.
20. Wedell, M. & Alshumaimeri, Y. (2014) Putting out the fires: Supervisors' experiences of introducing primary English in Saudi Arabia. *System,* 46, 120-130.

Other Research interests

- Oral second language learning
- Using pedagogic tasks
- Oral tasks and language development
- Syllabus design for TESOL
- EFL teacher training

Conferences

- The World Conference on Educational Technology Researches (WCETR-2011), Kyrenia, North Cyprus.

- IATEFL Annual Conference, Brighton 2011, UK.

- Second international conference: e-learning and distance learning, 2011, Riyadh

- Global e-Learn Asia Pacific 2010, Penang, Malaysia

- IATEFL Annual Conference, Cardiff 2009, UK.

- TESOL Arabia Annual Conference, Dubai 2008, UAE.

- IATEFL Annual conference, Harrogate 2006, UK.

- Al-Alsun Annual Conference, Minia University 2005, Egypt.

- Globalization and Educational Priorities, College of Education, King Saud University, Riyadh 2004.

- Task-based Colloquium, St. Mary's college 2003, UK.

- School of Education TESOL annual conference, University of Leeds 2000, UK.

- IATEFL Annual conference, The university of Edinburgh 1999, UK.

Committees

I participate in a number of committees as follow:

- Head of TESOL stream in the department of Curriculum and Instruction, 2003 – presents.
- A member of the departmental committee for courses and academic plans, 2005-2006-2007.
- A member of the departmental committee for the development of postgraduate studies, 2006.
- A member of the departmental committee for accreditation, 2006-2007.
- A member of the departmental committee for recruitment needs 2007.
- A member of the departmental committee for development, 2007.
- A member of college committee for evaluating the diploma programme of the Arab Open University, 2006.
- A member of college committee for the participation and planning in King Abdullah project for general education development, 2007.
- A member of a university committee for establishing a preparatory year, 2007.
- Coordinator for Cooperation between King Saud University and Leeds University.

Associations' membership

- International Association for teachers of English as a foreign language (IATEFL) since 1999.
- Saudi Educational and Psychological Association since 1998
- British Association for NLP in education since 2003.
- Association for Language Learning (ALL) since 2005.
- Member of TESOL Arabia since 2007.
  - Member of foundation committee for the Saudi Entrepreneurship Association since 2008

Appendix K - Dr. Petherbridge's Permission

Donna Petherbridge

To: Saud Omar

Re: Permission request for using dissertation survey

Yes, please feel free to use whatever piece is useful to you.
Best of luck,
Donna :-)

On Tue, Apr 14, 2015 at 4:23 AM, Saud Omar <saud23@ksu.edu> wrote:

Dear Dr. Petherbridge;

My name is Saud Omar, a Ph.D. candidate at Kansas State University. I would like to ask your permission to use a part from your dissertation (2007) survey in my dissertation survey (the part after SoCQ).

Thank you,
Saud Omar

- - -

Saud Omar

PhD Student

Educational Computing, Design, and Online Learning

Department of Curriculum & Instruction

Kansas State University

785-317-8751

Saud23@ksu.edu

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===
Dr. Donna Petherbridge
Associate Vice Provost, Instructional Technology Support and Development Services
Distance Education and Learning Technology Applications (DELTA)
Teaching Assistant Professor, Leadership, Policy & Adult and Higher Education
College of Education

North Carolina State University
Venture II (Centennial Campus)
Suite 500, Room 500-55
Campus Box 7113
Raleigh NC 27606-7113 919.513.3737(phone)

DELTA's LearnTech Help Desk
learntech@ncsu.edu
(919) 513-7094

LearnTech Help Desk Hours
Sunday: 11am to 8pm
Monday through Thursday: 8am to 8pm
Friday: 8am to 5pm

donna_petherbridge@ncsu.edu
http://delta.ncsu.edu
http://ced.ncsu.edu/lpahe
===

Appendix L - Dr. Yidana's Permission

Issifu Yidana
To: Saud Omar
Re: Permission request for using dissertation survey

Today at 9:23 AM

IY

Dear Mr. Saud Omar.

Thanks for your interest in a portion of my dissertation data collection instrument. You have my permission to use any part of the work, but you may have to acknowledge us in your work.

Best regards and wishes in your academic pursuits.

Yidana

On 2015-04-14 08:24, Saud Omar wrote:
> Dear Dr. Yidana;
> My name is Saud Omar, a Ph.D. candidate at Kansas State University. I
> would like to ask your permission to use a part from your dissertation
> (2007) survey in my dissertation survey.
> Thank you,
> Saud Omar
> - - -
> Saud Omar
> PhD Student
> Educational Computing, Design, and Online Learning
> Department of Curriculum & Instruction
> Kansas State University
> 785-317-8751
> Saud23@ksu.edu

Appendix M -   KSU IRB Training Certificates

Kansas State University

University Research Compliance Office

**Certifies the individual named below has complete the
IRB 1 - training module and quiz.**

Name:	Saud Omar
Department:	curriculum and instruction
Telephone:	7853178751
E-Mail:	saud23@ksu.edu
Confirmlation #:	130034565
Date:	March 17, 2013

Kansas State University

University Research Compliance Office

Certifies the individual named below has complete the IRB 2 - training module and quiz.

Name: Saud Omar
Department: curriculum and instruction
Telephone: 7853178751
E-Mail: omar.saud@gmail.com
Confirmlation #: 130059316
Date: March 17, 2013

Kansas State University

University Research Compliance Office

**Certifies the individual named below has complete the
IRB 3 - training module and quiz.**

Name: Saud Omar
Department: curriculum and instruction
Telephone: 7853178751
E-Mail: omar.saud@gmail.com
Confirmlation #: 130104434
Date: March 17, 2013

Kansas State University

University Research Compliance Office

**Certifies the individual named below has complete the
IRB 4 - training module and quiz.**

Name: Saud Omar
Department: curriculum and instruction
Telephone: 7853178751
E-Mail: omar.saud@gmail.com
Confirmlation #: 130112524
Date: March 17, 2013

Kansas State University

University Research Compliance Office

**Certifies the individual named below has complete the
IRB 5 - training module and quiz.**

Name: Saud Omar
Department: curriculum and instruction
Telephone: 7853178751
E-Mail: saud23@ksu.edu
Confirmlation #: 130114881
Date: March 18, 2013

Kansas State University

University Research Compliance Office

**Certifies the individual named below has complete the
IRB 6 - training module and quiz.**

Name: Saud Omar
Department: curriculum and instruction
Telephone: 7853178751
E-Mail: saud23@ksu.edu
Confirmlation #: 130115311
Date: March 18, 2013